# STIC Search Report
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STIC Database Tracking Number: 201713

| | |
|---|---|
| **TO: Maury Audet**<br>**Location: Remsen 3d20 / 3c18**<br>**Monday, September 18, 2006**<br>**Art Unit: 1654**<br>**Phone: 571-272-0960**<br>**Serial Number: 10 / 070222** | **From: Jan Delaval**<br>**Location: EIC 1700**<br>**Remsen 4a30**<br>**Phone: 571-272-2504**<br><br>**jan.delaval@uspto.gov** |

## Search Notes

Maury -

Your compounds are structurally unsearchable. I did run a structure search, but the results were irrelevant.

The only good references are applicants' own work: citations numbers 1, 2, and 4 in HCAPlus. See also hits in Registry file, numbers 1, 2, 4-8.

Any questions, please see me.

Jan

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=> fil reg
FILE 'REGISTRY' ENTERED AT 15:23:18 ON 18 SEP 2006
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STRUCTURE FILE UPDATES:   17 SEP 2006  HIGHEST RN 907180-17-0
DICTIONARY FILE UPDATES:  17 SEP 2006  HIGHEST RN 907180-17-0

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Effective September 24, 2006, Concord 3D coordinates will no longer
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REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/ONLINE/UG/regprops.html

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L4            47 SEA FILE=REGISTRY ABB=ON  PLU=ON  (100-53-8/BI OR 102691-36-1/B
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                 -1/BI OR 294172-35-3/BI OR 294172-37-5/BI OR 294172-39-7/BI OR
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                 BI OR 5961-85-3/BI OR 771-61-9/BI OR 89992-70-1/BI)
L5            26 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 AND S/ELS
L6            21 SEA FILE=REGISTRY ABB=ON  PLU=ON  L4 NOT L5
L7             6 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6 AND ?THIO?/CNS
L8             8 SEA FILE=REGISTRY ABB=ON  PLU=ON  L6 AND ?MERCAPT?/CNS
L9            14 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L7 OR L8)
L10            6 SEA FILE=REGISTRY ABB=ON  PLU=ON  L9 AND DIOXO
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                 ?MERCAPT?)/CNS
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L15          230 SEA FILE=REGISTRY ABB=ON  PLU=ON  L14 NOT DIOXO (1W) PYRROLID?

L16          205 SEA FILE=REGISTRY ABB=ON  PLU=ON  L15 NOT DIOXO (2W) (PYRAZOL?
                 OR THIOXAN?)
L17          200 SEA FILE=REGISTRY ABB=ON  PLU=ON  L16 NOT DIOXO (1W) PYRROL?
L18          194 SEA FILE=REGISTRY ABB=ON  PLU=ON  L17 NOT L10
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L21         134 SEA FILE=REGISTRY ABB=ON  PLU=ON  L18 NOT (L19 OR L20)
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                BUTEN? OR PENTEN? OR HEXEN?)
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L24           2 SEA FILE=REGISTRY ABB=ON  PLU=ON  L23 AND DIOXO(2W)(ETHYL? OR
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=> d his

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L1            1 S (WO2000-GB3306 OR GB99-20397 OR GB2000-12083)/AP,PRN
                E GAIT/AU
L2          196 S E8,E10-E13
                E STETSENKO/AU
                E STETSENKO D/AU
L3           49 S E3-E9
                SEL RN LA
                DEL SEL
                SEL RN L1

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L4           47 S E1-E47
L5           26 S L4 AND S/ELS
L6           21 S L4 NOT L5
L7            6 S L6 AND ?THIO?/CNS
L8            8 S L6 AND ?MERCAPT?/CNS
L9           14 S L7,L8
L10           6 S L9 AND DIOXO
L11             STR
L12          50 S L11
L13       78555 S NUCLEIC?/FS AND (?THIO? OR ?MERCAPT?)/CNS
L14         375 S L13 AND DIOXO?
L15         230 S L14 NOT DIOXO (1W) PYRROLID?
L16         205 S L15 NOT DIOXO (2W) (PYRAZOL? OR THIOXAN?)
L17         200 S L16 NOT DIOXO (1W) PYRROL?
L18         194 S L17 NOT L10
L19          35 S L18 AND ANTHRACEN?
L20          25 S L18 AND NAPHTHAC?
L21         134 S L18 NOT L19,L20
L22          18 S L21 AND DIOXO(1W)(ETHYL? OR PROPYL? OR BUTYL? OR PENTYL? OR H
L23         116 S L21 NOT L22
L24           2 S L23 AND DIOXO(2W)(ETHYL? OR PROPYL? OR BUTYL? OR PENTYL? OR H
L25         114 S L23 NOT L24
L26             STR L11
L27          50 S L26
L28       35593 S L26 FUL
L29           1 S L28 AND NUCLEIC?/FS
L30       31240 S L28 AND PROTEIN?/FS
L31        4352 S L28 NOT L29,L30
L32             STR L26
L33          13 S L32 SAM SUB=L28
L34         199 S L32 FUL SUB=L28
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L35           14 S L34 AND L30
L36            3 S L34 AND P/ELS
L37            0 S L36 AND L35
L38           86 S L10,L19,L20,L22,L24

     FILE 'HCAPLUS' ENTERED AT 15:08:34 ON 18 SEP 2006
L39           24 S L38
L40            3 S L39 AND L1-L3
L41           49 S L25
L42            0 S L1-L3 AND L41
L43           11 S L39 AND (PY<=1999 OR PRY<=1999 OR AY<=1999)
L44           31 S L41 AND (PY<=1999 OR PRY<=1999 OR AY<=1999)
                E OLIGONUCLEOTIDE/CT
L45           18 S E8+OLD,NT,RT AND L39
L46           27 S E8+OLD,NT,RT AND L41
                E SOLID PHASE SYNTHESIS/CT
L47            3 S E3+OLD,NT,RT AND L39
L48            3 S E3+OLD,NT,RT AND L41
                E PEPTIDE COUPLING/CT
L49            4 S E3+OLD,NT,RT AND L39
L50            7 S E3+OLD,NT,RT AND L41
L51            3 S L40 AND L43,L45,L47,L49
L52           10 S L43 AND L45,L47,L49
L53            9 S L52 NOT L51
L54            1 S L43 NOT L51,L53
L55           13 S L51-L54
L56           30 S L46,L48,L50
L57           40 S L44,L56
L58            9 S L57 AND PEPTIDE
L59            3 S L57 AND HYBRID
L60           10 S L58,L59
                SEL HIT RN

     FILE 'REGISTRY' ENTERED AT 15:19:24 ON 18 SEP 2006
L61           14 S E1-E14
L62            1 S 229016-44-8 AND L61

     FILE 'HCAPLUS' ENTERED AT 15:22:55 ON 18 SEP 2006
L63            1 S L62
L64           14 S L55,L63

     FILE 'REGISTRY' ENTERED AT 15:23:18 ON 18 SEP 2006

=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 15:23:39 ON 18 SEP 2006
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FILE COVERS 1907 - 18 Sep 2006 VOL 145 ISS 13
FILE LAST UPDATED: 17 Sep 2006 (20060917/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l64 all tot

L64 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2002:46822 HCAPLUS
DN 137:20554
ED Entered STN: 18 Jan 2002
TI Fragment coupling approaches to the synthesis of peptide-oligonucleotide conjugates
AU **Stetsenko, Dmitri A.; Gait, Michael J.**
CS Laboratory of Molecular Biology, Medical Research Council, Cambridge, CB2 2QH, UK
SO Innovation and Perspectives in Solid Phase Synthesis & Combinatorial Libraries: Peptides, Proteins and Nucleic Acids--Small Molecule Organic Chemistry Diversity, Collected Papers, International Symposium, 6th, York, United Kingdom, Aug. 31-Sept. 4, 1999 (2001), Meeting Date 1999, 79-86. Editor(s): Epton, Roger. Publisher: Mayflower Scientific Ltd., Kingswinford, UK.
CODEN: 69CEGV; ISBN: 0-9515735-3-5
DT Conference; General Review
LA English
CC 34-0 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 33
AB A review. A solid phase fragment coupling strategy for peptide-oligonucleotide conjugate synthesis involves assembling the oligonucleotide and peptide moieties sep. on their own supports. The peptide fragment is removed from its support and purified prior to conjugation. Conjugation at the C-terminus of the Nα-Fmoc-protected peptide fragment to supported 5'-primary amino group-functionalized oligonucleotide was evaluated under various reaction conditions.
ST review peptide oligonucleotide conjugate fragment coupling solid phase synthesis
IT **Peptides, preparation**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(oligonucleotide conjugates; fragment coupling approaches to synthesis of peptide-oligonucleotide conjugates)
IT **Solid phase synthesis**
(oligonucleotide; fragment coupling approaches to synthesis of peptide-oligonucleotide conjugates)
IT **Oligonucleotides**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(peptide conjugates; fragment coupling approaches to synthesis of peptide-oligonucleotide conjugates)
IT **Solid phase synthesis**
(peptide; fragment coupling approaches to synthesis of peptide-oligonucleotide conjugates)
IT **435230-07-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(fragment coupling approaches to synthesis of peptide-oligonucleotide conjugates)
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE
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L64 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:167843 HCAPLUS
DN 134:237835
ED Entered STN: 09 Mar 2001
TI Method for coupling molecules such as peptides and oligonucleotides
IN **Gait, Michael John; Stetsenko, Dmitry**
PA Medical Research Council, UK
SO PCT Int. Appl., 39 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K0047-48
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 33
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
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| | | | | | |
|---|---|---|---|---|---|
| PI | WO 2001015737 | A2 | 20010308 | WO 2000-GB3306 | 20000825 <-- |
| | WO 2001015737 | A3 | 20011115 | | |
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| | RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | CA 2382499 | AA | 20010308 | CA 2000-2382499 | 20000825 <-- |
| | EP 1207909 | A2 | 20020529 | EP 2000-956666 | 20000825 <-- |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL | | | | |
| | JP 2003508450 | T2 | 20030304 | JP 2001-520148 | 20000825 <-- |
| PRAI | GB 1999-20397 | A | 19990827 | <-- | |
| | GB 2000-12083 | A | 20000518 | <-- | |
| | WO 2000-GB3306 | W | 20000825 | <-- | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| WO 2001015737 | ICM | A61K0047-48 |
| | IPCI | A61K0047-48 [ICM,7] |
| | IPCR | A61K0047-48 [I,A]; A61K0047-48 [I,C*] |
| | ECLA | A61K047/48R4 |
| CA 2382499 | IPCI | A61K0047-48 [ICM,7] |
| EP 1207909 | IPCI | A61K0047-48 [ICM,6] |
| | IPCR | A61K0047-48 [I,A]; A61K0047-48 [I,C*] |
| JP 2003508450 | IPCI | C07K0001-00 [ICM,7]; A61K0031-7088 [ICS,7]; A61K0047-48 [ICS,7]; A61K0048-00 [ICS,7]; A61P0043-00 [ICS,7]; C07K0007-00 [ICS,7]; C07K0014-00 [ICS,7] |
| | IPCR | A61K0047-48 [I,A]; A61K0047-48 [I,C*] |

OS MARPAT 134:237835

AB A method is given for linking a first mol. M1-NH2 with a second mol. M2-OH which comprises reaction of a compound of formula M1-NHCO-A-C(O)SR1 (M1 is the residue of a mol. bearing an amino group, A is an alkylene or arylene group, R1 is alkyl or aryl) with a compound of formula M2-O-B(D-SR2)NH2 (M2 is the residue of a mol. bearing a hydroxy group, B is a linker, D is C1-4 alkylene or C3-12 arylene, R2 is H or a thiol protecting group). In addition, this invention relates to conjugate products of the coupling reaction, reagents for modifying M1-NH2 and M2-OH, and kits comprising these reagents. Thus, coupling reagents pentafluorophenyl S-benzyl thiosuccinate and 4-N-α-Fmoc-S-tert-butylsulfenyl-L-cysteinylpiperidyl 2-cyanoethyl N,N-diisopropylphosphoramidite were prepared and applied to the automated solid phase synthesis of peptide N-terminal S-benzyl thioesters and 5'-cysteinyl oligonucleotides and solution-phase synthesis of peptide-N→5'-oligonucleotide conjugates.

ST coupling method peptide oligonucleotide prepn

IT **Peptide coupling**
(method for coupling mols. such as peptides and oligonucleotides)

IT **Oligonucleotides**
**Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(method for coupling mols. such as peptides and oligonucleotides)

IT 100-53-8, Benzyl mercaptan 108-30-5, Succinic anhydride, reactions 771-61-9, Pentafluorophenol 5382-16-1, 4-Hydroxypiperidine 5961-85-3, Tris(2-carboxyethyl)phosphine 50910-54-8, trans-4-Aminocyclohexanol

hydrochloride 89992-70-1 102691-36-1 115520-21-3 143038-41-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(method for coupling mols. such as peptides and oligonucleotides)

IT 110556-14-4P 294172-31-9P 294172-32-0P 294172-33-1P 294172-35-3P
294172-37-5P 294172-39-7P 329185-90-2P 329185-91-3P 329185-94-6P
329185-97-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(method for coupling mols. such as peptides and oligonucleotides)

IT 294172-40-0P 294172-41-1P 294172-42-2P 294172-43-3P 294172-44-4P
294172-45-5P 294172-46-6P 294172-47-7P 294172-48-8P 294172-49-9P
294172-50-2P 294900-76-8P 294900-77-9P 294900-78-0P
**294900-79-1P 294900-80-4P** 295810-35-4P 295810-36-5P
295810-37-6P 295810-38-7P **295810-39-8P 295810-40-1P**
**295810-41-2P** 329186-01-8P **329991-05-1P**
329991-06-2DP, fluorescein bound
RL: SPN (Synthetic preparation); PREP (Preparation)
(method for coupling mols. such as peptides and oligonucleotides)

L64 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:838129 HCAPLUS
DN 134:5118
ED Entered STN: 30 Nov 2000
TI Derivatized oligonucleotides having improved uptake and other properties
IN Manoharan, Muthiah; Cook, Phillip Dan; Bennett, Clarence Frank
PA ISIS Pharmaceuticals, Inc., USA
SO U.S., 25 pp., Cont.-in-part of U.S. Ser. No. 782,374, abandoned.
CODEN: USXXAM
DT Patent
LA English
IC C07H0019-00; C07H0021-00; C12Q0001-68; A01N0043-04
INCL 536022100
CC 33-10 (Carbohydrates)
Section cross-reference(s): 6
FAN.CNT 322

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 6153737 | A | 20001128 | US 1994-211882 | 19940422 <-- |
| | WO 9110671 | A1 | 19910725 | WO 1991-US243 | 19910111 <-- |
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| | EP 1418179 | A2 | 20040512 | EP 2003-78862 | 19910111 <-- |
| | EP 1418179 | A3 | 20060308 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE | | | | |
| | CA 2089376 | AA | 19920214 | CA 1991-2089376 | 19910812 <-- |
| | EP 1443051 | A2 | 20040804 | EP 2004-76246 | 19910812 <-- |
| | EP 1443051 | A3 | 20050817 | | |
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| | AT 318273 | E | 20060315 | AT 1991-915355 | 19910812 <-- |
| | WO 9307883 | A1 | 19930429 | WO 1992-US9196 | 19921023 <-- |
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| | EP 1331011 | A2 | 20030730 | EP 2003-76286 | 19921023 <-- |
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| | AU 713740 | B2 | 19991209 | | |
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| | US 6265558 | B1 | 20010724 | US 1999-383856 | 19990826 <-- |
| | US 6395492 | B1 | 20020528 | US 2000-633659 | 20000807 <-- |
| | US 2002177150 | A1 | 20021128 | US 2002-73718 | 20020211 <-- |
| | US 2003064492 | A1 | 20030403 | US 2002-154993 | 20020523 <-- |
| | US 6919439 | B2 | 20050719 | | |
| | US 2003175751 | A1 | 20030918 | US 2002-284742 | 20021031 <-- |
| | US 2005043219 | A1 | 20050224 | US 2004-755166 | 20040109 <-- |
| | US 2005158727 | A1 | 20050721 | US 2004-755109 | 20040109 <-- |
| PRAI | US 1990-463358 | B2 | 19900111 <-- | | |
| | US 1990-566977 | B2 | 19900813 <-- | | |
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| | US 1994-211882 | A2 | 19940422 <-- | | |
| | US 1995-458396 | A1 | 19950602 <-- | | |
| | US 1997-924326 | A1 | 19970905 <-- | | |
| | US 1997-948151 | A1 | 19971009 <-- | | |
| | US 2000-633659 | A3 | 20000807 | | |
| | US 2002-73718 | A1 | 20020211 | | |
| | US 2002-154993 | A1 | 20020523 | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| US 6153737 | IC | C07H0019-00; C07H0021-00; C12Q0001-68; A01N0043-04 |
| | INCL | 536022100 |
| | IPCI | C07H0019-00 [ICM]; C07H0021-00 [ICS]; C12Q0001-68 [ICS]; A01N0043-04 [ICS]; A01N0043-02 [ICS,C*] |
| | IPCR | A01N0043-02 [I,C*]; A01N0043-04 [I,A]; C07H0019-00 [I,A]; C07H0019-00 [I,C*]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| | NCL | 536/022.100; 435/006.000; 536/023.100; 536/025.300; 536/025.320; 536/026.600 |
| WO 9110671 | IPCI | C07H0001-00 [ICM]; A61K0031-70 [ICS]; C12Q0001-68 [ICS] |
| | IPCR | A61K0038-00 [N,A]; A61K0038-00 [N,C*]; A61K0048-00 [I,A]; A61K0048-00 [I,C*]; C07H0019-00 [I,C*]; C07H0019-04 [I,A]; C07H0019-06 [I,A]; C07H0019-10 [I,A]; C07H0019-16 [I,A]; C07H0019-20 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0023-00 [I,A]; C07H0023-00 [I,C*]; C07J0043-00 [I,A]; C07J0043-00 [I,C*]; C07K0014-005 [I,C*]; C07K0014-16 [I,A]; C12N0009-02 [I,A]; C12N0009-02 [I,C*]; C12N0015-11 [I,A]; C12N0015-11 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| EP 1418179 | IPCI | C07H0021-00 [I,A]; C07H0019-04 [I,A]; C07H0019-14 [I,A]; C07H0019-06 [I,A]; C07H0019-16 [I,A]; A61K0031-70 [I,A]; C12Q0001-68 [I,A]; C07H0019-052 [I,A]; C07H0019-12 [I,A]; C07H0019-22 [I,A]; C07H0019-23 [I,A]; C07H0019-00 [I,C*]; A61K0031-7052 [I,A]; A61K0031-7042 [I,C*] |
| | ECLA | C07H019/04; C07H019/06; C07H019/06E; C07H019/10E; C07H019/16E; C07H019/20; C07H021/00; C07H021/00C2; |

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|---|---|---|
| | | C07H021/00C4; C07H021/00G; C07H021/00H; C07H023/00D; C07J043/00B |
| CA 2089376 | IPCR | A61K0038-00 [N,A]; A61K0038-00 [N,C*]; A61K0048-00 [N,A]; A61K0048-00 [N,C*]; C07H0019-00 [I,C*]; C07H0019-04 [I,A]; C07H0019-06 [I,A]; C07H0019-10 [I,A]; C07H0019-16 [I,A]; C07H0019-20 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0023-00 [I,A]; C07H0023-00 [I,C*]; C07J0043-00 [I,A]; C07J0043-00 [I,C*]; C12N0009-02 [I,A]; C12N0009-02 [I,C*]; C12N0015-11 [I,A]; C12N0015-11 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| EP 1443051 | IPCI | C07H0021-00 [ICM,7]; A61K0031-70 [ICS,7]; C07H0019-16 [ICS,7]; C07H0019-00 [ICS,7,C*]; C12P0021-06 [ICS,7] |
| | ECLA | A61K031/70; C07H019/16; C07H021/00; C12N015/11B |
| AT 318273 | IPCI | C07H0021-00 [ICS,7]; A61K0031-70 [ICS,7]; C07H0019-16 [ICS,7]; C07H0019-00 [ICS,7,C*] |
| | IPCR | A61K0038-00 [N,C*]; A61K0048-00 [N,C*]; C07H0019-00 [I,C*]; C07H0021-00 [I,C*]; C07H0023-00 [I,C*]; C07J0043-00 [I,C*]; C12N0009-02 [I,C*]; C12N0015-11 [I,C*]; C12Q0001-68 [I,C*]; A61K0038-00 [N,A]; A61K0048-00 [N,A]; C07H0019-04 [I,A]; C07H0019-06 [I,A]; C07H0019-10 [I,A]; C07H0019-16 [I,A]; C07H0019-20 [I,A]; C07H0021-00 [I,A]; C07H0023-00 [I,A]; C07J0043-00 [I,A]; C12N0009-02 [I,A]; C12N0015-11 [I,A]; C12Q0001-68 [I,A] |
| | ECLA | C07H019/04; C07H019/06; C07H019/06E; C07H019/10E; C07H019/16E; C07H019/20; C07H021/00; C07H021/00C2; C07H021/00C4; C07H021/00G; C07H021/00H; C07H023/00D; C07J043/00B; C12N009/02K; C12N015/11B; C12N015/11B5; C12Q001/68 |
| WO 9307883 | IPCI | A61K0031-70 [ICM,5]; C07H0021-00 [ICS,5] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0023-00 [I,A]; C07H0023-00 [I,C*]; C07J0043-00 [I,A]; C07J0043-00 [I,C*]; C07J0051-00 [I,A]; C07J0051-00 [I,C*] |
| EP 1331011 | IPCI | A61K0047-48 [ICM,7] |
| | ECLA | C07H021/00C4; C07H021/00G; C07H021/00H; C07J043/00B; C07J051/00 |
| US 5578718 | IPCI | C07H0019-06 [ICM,6]; C07H0019-16 [ICS,6]; C07H0019-00 [ICS,6,C*]; C07H0021-00 [ICS,6] |
| | IPCR | A61K0038-00 [N,A]; A61K0038-00 [N,C*]; A61K0048-00 [N,A]; A61K0048-00 [N,C*]; C07H0019-00 [I,C*]; C07H0019-04 [I,A]; C07H0019-06 [I,A]; C07H0019-10 [I,A]; C07H0019-16 [I,A]; C07H0019-20 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0023-00 [I,A]; C07H0023-00 [I,C*]; C07J0043-00 [I,A]; C07J0043-00 [I,C*]; C07J0051-00 [I,A]; C07J0051-00 [I,C*]; C12N0009-02 [I,A]; C12N0009-02 [I,C*]; C12N0015-11 [I,A]; C12N0015-11 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| | NCL | 536/027.210; 536/027.600; 536/027.800; 536/027.810; 536/028.100; 536/028.400; 536/028.500; 536/028.530; 536/028.540; 536/055.300 |
| | ECLA | C07H019/04; C07H019/06; C07H019/06E; C07H019/10E; C07H019/16E; C07H019/20; C07H021/00; C07H021/00C2; C07H021/00C4; C07H021/00F; C07H021/00G; C07H021/00H; C07H023/00D; C07J043/00B; C07J051/00; C12N009/02K; C12N015/11B; C12N015/11B5; C12Q001/68 |
| JP 08098700 | IPCI | C12Q0001-68 [ICM,6]; A61K0031-70 [ICS,6]; C07H0021-04 [ICS,6]; C07H0021-00 [ICS,6,C*]; C12N0015-09 [ICS,6] |

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|---|---|---|
| AU 9726244 | IPCI | C12N0015-11 [ICM,6]; A61K0031-70 [ICS,6]; A61K0048-00 [ICS,6] |
| | IPCR | A61K0031-70 [I,A]; A61K0031-70 [I,C*]; A61K0048-00 [I,A]; A61K0048-00 [I,C*]; C12N0015-11 [I,A]; C12N0015-11 [I,C*] |
| US 6232463 | IPCI | C07H0021-02 [ICM,7]; C07H0021-00 [ICM,7,C*] |
| | IPCR | C07H0019-00 [I,C*]; C07H0019-16 [I,A]; C07H0019-20 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| | NCL | 536/025.300; 536/025.310; 536/025.320; 536/025.330; 536/025.340; 544/264.000 |
| | ECLA | C07H019/16E; C07H019/20; C07H021/00C4 |
| US 6265558 | IPCI | C07H0021-02 [ICM]; C07H0021-04 [ICS]; C07H0021-00 [ICS,C*] |
| | IPCR | C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A] |
| | NCL | 536/023.100; 536/022.100; 536/024.310; 536/025.300; 536/025.320; 536/027.600; 536/027.800; 536/027.810; 536/028.100; 536/028.400; 536/028.500 |
| US 6395492 | IPCI | C12Q0001-68 [ICM]; C07H0019-00 [ICS]; C07H0021-00 [ICS]; A01N0043-04 [ICS]; A01N0043-02 [ICS,C*] |
| | IPCR | A61K0038-00 [N,A]; A61K0038-00 [N,C*]; A61K0048-00 [N,A]; A61K0048-00 [N,C*]; C07H0019-00 [I,C*]; C07H0019-04 [I,A]; C07H0019-06 [I,A]; C07H0019-10 [I,A]; C07H0019-16 [I,A]; C07H0019-20 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0023-00 [I,A]; C07H0023-00 [I,C*]; C07J0043-00 [I,A]; C07J0043-00 [I,C*]; C07J0051-00 [I,A]; C07J0051-00 [I,C*]; C12N0009-02 [I,A]; C12N0009-02 [I,C*]; C12N0015-11 [I,A]; C12N0015-11 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| | NCL | 435/006.000; 514/044.000; 536/022.100; 536/023.100 |
| | ECLA | C07H019/04; C07H019/06; C07H019/06E; C07H019/10E; C07H019/16E; C07H019/20; C07H021/00; C07H021/00C4; C07H021/00C2; C07H021/00F; C07H021/00G; C07H021/00H; C07H023/00D; C07J043/00B; C07J051/00; C12N009/02K; C12N015/11B; C12N015/11B5; C12Q001/68 |
| US 2002177150 | IPCI | C12Q0001-68 [ICM]; C07J0001-00 [ICS]; C07H0021-04 [ICS]; C07H0021-00 [ICS,C*]; C12N0009-00 [ICS] |
| | IPCR | H04L0012-42 [I,A]; H04L0012-42 [I,C*]; H04L0012-46 [I,A]; H04L0012-46 [I,C*]; H04L0012-56 [I,A]; H04L0012-56 [I,C*]; H04Q0011-04 [N,A]; H04Q0011-04 [N,C*] |
| | NCL | 435/006.000; 435/183.000; 514/044.000; 536/005.000; 536/023.100 |
| | ECLA | H04L012/42; H04L012/46; H04L012/56C |
| US 2003064492 | IPCI | C12Q0001-68 [ICM,7]; C07J0001-00 [ICS,7]; C07H0021-04 [ICS,7]; C07H0021-00 [ICS,7,C*]; C12N0009-00 [ICS,7]; C07K0009-00 [ICS,7] |
| | IPCR | A01N0043-02 [I,C*]; A01N0043-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C07J0001-00 [I,A]; C07J0001-00 [I,C*]; C07K0009-00 [I,A]; C07K0009-00 [I,C*]; C12N0009-00 [I,A]; C12N0009-00 [I,C*]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| | NCL | 435/183.000; 435/006.000; 530/395.000; 536/005.000; 536/023.100 |
| US 2003175751 | IPCI | C12Q0001-68 [ICM,7]; C07H0021-04 [ICS,7]; C07H0021-00 [ICS,7,C*] |
| | IPCR | C07H0021-00 [I,C*]; C07H0021-04 [I,A]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |

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| | NCL | 435/006.000; 536/023.100 |
| US 2005043219 | IPCI | C12Q0001-68 [ICM,7]; A61K0038-16 [ICS,7]; A61K0048-00 [ICS,7]; C07H0021-04 [ICS,7]; C07H0021-00 [ICS,7,C*] |
| | IPCR | A61K0038-16 [I,A]; A61K0038-16 [I,C*]; A61K0048-00 [I,A]; A61K0048-00 [I,C*]; C07H0021-00 [I,C*]; C07H0021-04 [I,A]; C07J0017-00 [I,A]; C07J0017-00 [I,C*]; C07K0014-435 [I,C*]; C07K0014-47 [I,A]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| | NCL | 514/007.000; 435/006.000; 514/026.000; 514/044.000; 530/352.000; 536/006.100; 536/023.100 |
| US 2005158727 | IPCI | C12Q0001-68 [ICM,7]; C07J0017-00 [ICS,7]; C07H0021-04 [ICS,7]; C07H0021-00 [ICS,7,C*]; C07K0014-47 [ICS,7]; C07K0014-435 [ICS,7,C*] |
| | IPCR | A61K0038-16 [I,A]; A61K0038-16 [I,C*]; A61K0048-00 [I,A]; A61K0048-00 [I,C*]; C07H0021-00 [I,C*]; C07H0021-04 [I,A]; C07J0017-00 [I,A]; C07J0017-00 [I,C*]; C07K0014-435 [I,C*]; C07K0014-47 [I,A]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |
| | NCL | 435/006.000; 530/352.000; 536/006.100; 536/024.300; 536/025.320 |

AB Linked nucleosides having at least one functionalized nucleoside that bears a substituent such as a steroid mol., a reporter mol., a non-aromatic lipophilic mol., a reporter enzyme, a peptide, a protein, a water soluble vitamin, a lipid soluble vitamin, an RNA cleaving complex, a metal chelator, a porphyrin, an alkylator, a pyrene, a hybrid photo-nuclease/intercalator, or an aryl azide photo-crosslinking agent exhibit increased cellular uptake and other properties. The substituent can be attached at the 2'-position of the functionalized nucleoside via a linking group. If at least a portion of the remaining linked nucleosides are 2'-deoxy-2'-fluoro, 2'-O-methoxy, 2'-O-ethoxy, 2'-O-propoxy, 2'-O-aminoalkoxy or 2'-O-allyloxy nucleosides, the substituent can be attached via a linking group at any of the 3' or the 5' positions of the nucleoside or on the heterocyclic base of the nucleoside or on the inter-nucleotide linkage linking the nucleoside to an adjacent nucleoside.

ST cellular uptake functionalized oligonucleotide prepn; oligonucleotide functionalized cholic acid prepn

IT Cell adhesion molecules
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(ICAM-1 (intercellular adhesion mol. 1); preparation of derivatized oligonucleotides having improved uptake and other properties)

IT Crosslinking
(preparation of derivatized oligonucleotides having improved uptake and other properties)

IT **Oligodeoxyribonucleotides**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of derivatized oligonucleotides having improved uptake and other properties)

IT Biological transport
(uptake; preparation of derivatized oligonucleotides having improved uptake and other properties)

IT 154654-57-6P 154654-59-8P 154655-22-8P 307351-21-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of derivatized oligonucleotides having improved uptake and other properties)

IT 17407-37-3P 147482-95-9DP, mono substituted 2'-O-pentylamine adenosine and 2'-O-pentylamino biotin derivs. 147482-95-9DP, mono substituted 2'-O-pentylamine and 2'-O-pentylamino fluorescein isothiocyanate derivs.
154654-63-4P 154654-64-5P 154654-80-5P 154654-88-3P 154654-90-7P
154654-92-9P 154655-00-2P 154655-04-6P 154655-07-9P 154655-09-1P
154655-10-4P 154655-19-3P 307997-67-7P 307997-68-8P 307997-69-9P
307997-70-2P 307997-71-3P 307997-72-4P 307997-73-5P 307997-74-6P
307997-75-7P 308147-42-4P 308147-43-5P 308147-44-6P 308147-45-7P
308147-46-8P 308147-50-4P 308147-51-5P 308147-52-6P 308147-53-7P
308147-56-0P 308147-57-1P **308147-58-2P** 308147-63-9P
308147-64-0P 308147-67-3P 308147-68-4P 308147-69-5P 308147-70-8P
308147-72-0P 308147-73-1P 308147-75-3P 308147-76-4P 308147-78-6P
308147-79-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of derivatized oligonucleotides having improved uptake and other properties)

IT 53-06-5, Cortisone 57-88-5, Cholesterol, reactions 58-22-0, Testosterone 58-96-8, Uridine 81-23-2, Dehydrocholic acid 81-25-4, Cholic acid 83-44-3, Deoxycholic acid 302-79-4, Retinoic acid 954-81-4, N-(5-Bromopentyl)phthalimide 1672-46-4, Digoxigenin 1892-57-5, EDAC 6066-82-6, N-Hydroxysuccinimide 7620-46-4 13400-13-0, Cesium fluoride 27072-45-3, Fluorescein isothiocyanate 42922-78-1, Fluorescein isocyanate 53053-08-0, N-Hydroxysuccinimidyl-4-azidobenzoate 64309-05-3 114932-60-4 129273-26-3 133975-85-6 146818-48-6 308147-65-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of derivatized oligonucleotides having improved uptake and other properties)

IT 42822-78-6P 65646-64-2P 70090-26-5P 154042-65-6P 154042-66-7P 307351-19-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of derivatized oligonucleotides having improved uptake and other properties)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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AN 2000:554717 HCAPLUS
DN 133:252734
ED Entered STN: 13 Aug 2000
TI Efficient Conjugation of Peptides to Oligonucleotides by "Native Ligation"
AU **Stetsenko, Dmitry A.; Gait, Michael J.**
CS Laboratory of Molecular Biology, Medical Research Council, Cambridge, CB2 2QH, UK
SO Journal of Organic Chemistry (2000), 65(16), 4900-4908
CODEN: JOCEAH; ISSN: 0022-3263
PB American Chemical Society
DT Journal
LA English
CC 34-3 (Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 6, 33
OS CASREACT 133:252734
AB A new strategy has been developed for conjugation of peptides to oligonucleotides. The method is based on the "native ligation" of an N-terminal thioester-functionalized peptide to a 5'-cysteinyl oligonucleotide. Two new reagents were synthesized for use in solid-phase peptide and oligonucleotide synthesis, resp. Pentafluorophenyl S-benzylthiosuccinate was used in the final coupling step in standard Fmoc-based solid-phase peptide assembly. Deprotection with trifluoroacetic acid generated in solution peptides substituted with an N-terminal S-benzylthiosuccinyl moiety. O-trans-4-(N-α-Fmoc-S-tert-butylsulfenyl-L-cysteinyl)aminocyclohexyl O-2-cyanoethyl-N,N-diisopropylphosphoramidite was used in the final coupling step in standard phosphoramidite solid-phase oligonucleotide assembly. Deprotection with aqueous ammonia solution generated in solution 5'-S-tert-butylsulfenyl-L-cysteinyl functionalized oligonucleotides. Functionalized peptides and oligonucleotides were used without purification in native ligation conjugation reactions in aqueous/organic solution using tris-(2-carboxyethyl)phosphine to remove the tert-butylsulfenyl group in situ and thiophenol as a conjugation enhancer. A range of peptide-oligonucleotide conjugates were prepared by this route and purified by reversed-phase HPLC.
ST peptide oligonucleotide conjugate prepn coupling solid phase
IT **Peptide coupling**
**Solid phase synthesis**
(preparation of peptide-oligonucleotide conjugates by native ligation techniques)
IT **Oligonucleotides**
**Peptides, preparation**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of peptide-oligonucleotide conjugates by native ligation techniques)

IT 100-53-8, Benzyl mercaptan 108-30-5, Succinic anhydride, reactions 771-61-9, Pentafluorophenol 50910-54-8 115520-21-3 143038-41-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of peptide-oligonucleotide conjugates by native ligation techniques)

IT 110556-14-4P 294172-31-9P 294172-32-0P 294172-33-1P 294172-35-3P 294172-37-5P 294172-39-7P 294172-40-0P 294172-41-1P 294172-42-2P 294172-43-3P 294172-44-4P 294172-45-5P 294172-46-6P 294172-47-7P 294172-48-8P 294172-49-9P 294900-76-8P 294900-77-9P 294900-78-0P 295810-35-4P 295810-36-5P 295810-37-6P 295810-38-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of peptide-oligonucleotide conjugates by native ligation techniques)

IT 294172-50-2P **294900-79-1P 294900-80-4P 295810-39-8P 295810-40-1P 295810-41-2P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of peptide-oligonucleotide conjugates by native ligation techniques)

RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L64 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:427507 HCAPLUS
DN 131:69262
ED Entered STN: 12 Jul 1999
TI Method for electrochemical detection of sequence-specific nucleic acid-oligomer hybridization
IN Hartwich, Gerhard
PA Germany
SO Ger. Offen., 28 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C12N0015-11
ICS C12Q0001-68; C07H0021-00; G01N0027-26
CC 3-1 (Biochemical Genetics)
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | DE 19901761 | A1 | 19990701 | DE 1999-19901761 | 19990118 |
| | DE 19926457 | A1 | 20000727 | DE 1999-19926457 | 19990429 |
| | CA 2371938 | AA | 20000720 | CA 2000-2371938 | 20000107 |
| | WO 2000042217 | A2 | 20000720 | WO 2000-EP84 | 20000107 |
| | WO 2000042217 | A3 | 20001130 | | |
| | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW | | | | |
| | RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | EP 1144685 | A2 | 20011017 | EP 2000-904884 | 20000107 |
| | EP 1144685 | B1 | 20030423 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |
| | BR 2000007571 | A | 20011127 | BR 2000-7571 | 20000107 |
| | TR 200101930 | T2 | 20020621 | TR 2001-1930 | 20000107 |
| | AU 758063 | B2 | 20030313 | AU 2000-26627 | 20000107 |
| | AT 238436 | E | 20030515 | AT 2000-904884 | 20000107 |
| | JP 2003521465 | T2 | 20030715 | JP 2000-593774 | 20000107 |
| | ES 2198282 | T3 | 20040201 | ES 2000-904884 | 20000107 |
| | ZA 2001005097 | A | 20020219 | ZA 2001-5097 | 20010621 |
| | NO 2001003471 | A | 20010913 | NO 2001-3471 | 20010713 |
| PRAI | DE 1999-19901761 | A1 | 19990118 | | |
| | DE 1999-19926457 | A | 19990429 | | |

WO 2000-EP84 W 20000107

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| DE 19901761 | ICM | C12N0015-11 |
| | ICS | C12Q0001-68; C07H0021-00; G01N0027-26 |
| | IPCI | C12N0015-11 [ICM,6]; C12Q0001-68 [ICS,6]; C07H0021-00 [ICS,6]; G01N0027-26 [ICS,6] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C12N0015-11 [I,A]; C12N0015-11 [I,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-26 [I,A]; G01N0027-26 [I,C*] |
| | ECLA | C12Q001/68B2H+565/607+565/519+523/319 |
| DE 19926457 | IPCI | C07H0021-00 [ICM,7]; C12N0015-11 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0027-26 [ICS,7] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C12N0015-11 [I,A]; C12N0015-11 [I,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-26 [I,A]; G01N0027-26 [I,C*] |
| | ECLA | C12Q001/68B2H+565/607+565/519+523/319 |
| CA 2371938 | IPCI | C12Q0001-68 [ICM,7]; C07H0021-00 [ICS,7] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*] |
| WO 2000042217 | IPCI | C12Q0001-68 [ICM,7] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*] |
| EP 1144685 | IPCI | C12Q0001-68 [ICM,6]; C07H0021-00 [ICS,6] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*] |
| BR 2000007571 | IPCI | C12Q0001-68 [ICM,7] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*] |

TR 200101930 IPCI C12Q0001-68 [ICM,7]; C07H0021-00 [ICS,7]
IPCR C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*]

AU 758063 IPCI C12Q0001-68 [ICM,7]
IPCR C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*]

AT 238436 IPCI C12Q0001-68 [ICM,7]; C07H0021-00 [ICS,7]
IPCR C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*]

JP 2003521465 IPCI C07H0021-02 [ICM,7]; C07H0021-04 [ICS,7]; C07H0021-00 [ICS,7,C*]; C12Q0001-68 [ICS,7]; G01N0027-06 [ICS,7]; G01N0027-30 [ICS,7]; G01N0027-327 [ICS,7]; G01N0027-416 [ICS,7]; G01N0033-566 [ICS,7]; G01N0037-00 [ICS,7]; C12N0015-09 [ICS,7]
IPCR C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*]

ES 2198282 IPCI C12Q0001-68 [ICM,7]; C07H0021-00 [ICS,7]
IPCR C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C07H0021-04 [I,A]; C12N0015-09 [N,A]; C12N0015-09 [N,C*]; C12Q [I,S]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*]; G01N0027-06 [I,A]; G01N0027-06 [I,C*]; G01N0027-30 [I,A]; G01N0027-30 [I,C*]; G01N0027-327 [I,A]; G01N0027-327 [I,C*]; G01N0027-416 [I,A]; G01N0027-416 [I,C*]; G01N0033-566 [I,A]; G01N0033-566 [I,C*]; G01N0037-00 [I,A]; G01N0037-00 [I,C*]

ZA 2001005097 IPCI C12Q [ICM,7]
ECLA C12Q001/68B2H+565/607+565/519+523/319

NO 2001003471 IPCI C12Q [ICM,7]

AB The title method is disclosed. The method comprises use of a DNA/RNA/PNA oligomer, one end of which is attached to a conductive surface, the other end of which is attached to a photoinducible redox-active substance. Upon

hybridization of this tethered oligomer derivative, the elec. communication between the redox-active substance and conductive surface is increased. This hybridization-enhanced elec. current can be detected by amperometry, voltammetry or conductivity measurements. Two types of oligonucleotide derivs. were described. The oligonucleotides were attached to a gold-coated mica surface. The other end of one of the oligonucleotides was attached to ubiquinone and this was complexed with the reaction center protein of Rhodobacter sphaeroides. The other oligonucleotide was conjugated to the quinone cofactor PQQ which was in turn conjugated to Zn-bacteriochlorophyll.

ST hybridization electrochem detection; photoinducible redox agent oligonucleotide conjugate electrode hybridization

IT Oligonucleotides
Peptide nucleic acids
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(conjugates with electrode and photoinducible redox agent; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Semiconductor materials
(conjugates with photoinducible redox agent-oligonucleotide conjugates; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Quinones
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(electron acceptor; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Flavins
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(electron donor/acceptor; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Metalloporphyrins
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(electron donor; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Bacteriochlorophylls
Chlorophylls, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(metal complexes, electron donor; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Nucleic acid hybridization
(method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Cytochromes
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT Redox agents
(photoinducible, oligonucleotides conjugates with electrode and; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT 14701-21-4D, Silver(I), halogenides, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 17493-86-6D, Copper(I), halogenides, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis

RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(electrodes coated with; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT 7429-90-5D, Aluminum, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7439-89-6D, Iron, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7439-92-1D, Lead, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7439-96-5D, Manganese, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7439-97-6D, Mercury, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-02-0D, Nickel, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-05-3D, Palladium, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-06-4D, Platinum, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-22-4D, Silver, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-43-9D, Cadmium, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-44-0D, Carbon, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-50-8D, Copper, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-57-5D, Gold, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis 7440-66-6D, Zinc, conjugates with photoinducible redox agent-oligonucleotide conjugates, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(electrodes; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT 84-65-1, 9,10-Anthraquinone 98-92-0, Nicotinamide 106-51-4, 1,4-Benzoquinone, analysis 130-15-4, 1,4-Naphthoquinone 524-42-5, 1,2-Naphthoquinone 583-63-1, 1,2-Benzoquinone 72909-34-3, Pyrroloquinoline quinone
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(electron acceptor; method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT **229016-44-8** 229016-46-0
RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)
(method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

IT 134-03-2, Sodium ascorbate 13408-63-4, Hexacyanoferrate(II) 15438-31-0D, charge transfer complexes, analysis 16065-83-1D, Chromium(III), charge transfer complexes, analysis 22541-53-3D, charge transfer complexes, analysis 22541-59-9D, Ruthenium, ion (Ru2+), charge transfer complexes, analysis 22541-59-9D, Ruthenium, ion (Ru2+), hexamine complexes, analysis 22542-07-0D, Osmium, ion (Os2+), charge transfer complexes, analysis
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)
(method for electrochem. detection of sequence-specific nucleic acid-oligomer hybridization)

L64 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:623177 HCAPLUS
DN 127:278418
ED Entered STN: 29 Sep 1997
TI Preparation of oligodeoxyribonucleotide-anthracycline and oligodeoxyribonucleotide-anthracyclinone triplexes

IN Garbesi, Anna Maria; Bonazzi, Stefania; Zanella, Stefania; Capobianco, Massimo Luigi; Giannini, Giuseppe; Arcamone, Federico
PA Consiglio Nazionale Delle Ricerche, Italy; Garbesi, Anna Maria; Bonazzi, Stefania; Zanella, Stefania; Capobianco, Massimo Luigi; Giannini, Giuseppe; Arcamone, Federico
SO PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C07H0021-00
ICS C07H0017-04; A61K0031-70
CC 33-10 (Carbohydrates)
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | WO 9733897 | A1 | 19970918 | WO 1997-EP1246 | 19970312 <-- |
| | W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| | RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG | | | | |
| | CA 2248900 | AA | 19970918 | CA 1997-2248900 | 19970312 <-- |
| | AU 9721554 | A1 | 19971001 | AU 1997-21554 | 19970312 <-- |
| | EP 888372 | A1 | 19990107 | EP 1997-914227 | 19970312 <-- |
| | EP 888372 | B1 | 20010816 | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI | | | | |
| | AT 204289 | E | 20010915 | AT 1997-914227 | 19970312 <-- |
| | ES 2162267 | T3 | 20011216 | ES 1997-914227 | 19970312 <-- |
| | PT 888372 | T | 20020130 | PT 1997-914227 | 19970312 <-- |
| | US 6160102 | A | 20001212 | US 1998-142521 | 19980909 <-- |
| PRAI | IT 1996-FI44 | A | 19960313 <-- | | |
| | WO 1997-EP1246 | W | 19970312 <-- | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| WO 9733897 | ICM | C07H0021-00 |
| | ICS | C07H0017-04; A61K0031-70 |
| | IPCI | C07H0021-00 [ICM,6]; C07H0017-04 [ICS,6]; C07H0017-00 [ICS,6,C*]; A61K0031-70 [ICS,6] |
| | IPCR | C07H0017-00 [I,C*]; C07H0017-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| CA 2248900 | IPCI | C07H0021-00 [ICM,6]; C07C0069-21 [ICS,6]; C07H0015-252 [ICS,6]; C07H0015-00 [ICS,6,C*]; C07C0050-36 [ICS,6]; C07C0050-38 [ICS,6]; C07C0050-00 [ICS,6,C*]; A61K0031-70 [ICS,6]; C07C0069-95 [ICS,6]; C07C0069-00 [ICS,6,C*] |
| AU 9721554 | IPCI | C07H0021-00 [ICM,6]; C07H0017-04 [ICS,6]; C07H0017-00 [ICS,6,C*]; A61K0031-70 [ICS,6] |
| | IPCR | C07H0017-00 [I,C*]; C07H0017-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| EP 888372 | IPCI | C07H0021-00 [ICM,6]; C07H0017-04 [ICS,6]; C07H0017-00 [ICS,6,C*]; A61K0031-70 [ICS,6] |
| | IPCR | C07H0017-00 [I,C*]; C07H0017-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| AT 204289 | IPCI | C07H0021-00 [ICM,7]; C07H0017-04 [ICS,7]; C07H0017-00 [ICS,7,C*]; A61K0031-70 [ICS,7] |

| | | |
|---|---|---|
| | IPCR | C07H0017-00 [I,C*]; C07H0017-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| ES 2162267 | IPCI | C07H0021-00 [ICM,7]; C07H0017-04 [ICS,7]; C07H0017-00 [ICS,7,C*]; A61K0031-70 [ICS,7] |
| | IPCR | C07H0017-00 [I,C*]; C07H0017-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| PT 888372 | IPCI | C07H0021-00 [ICM,7]; C07H0017-04 [ICS,7]; C07H0017-00 [ICS,7,C*]; A61K0031-70 [ICS,7] |
| | IPCR | C07H0017-00 [I,C*]; C07H0017-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| US 6160102 | IPCI | C12Q0001-68 [ICM,7]; C07H0019-00 [ICS,7]; C07H0021-00 [ICS,7]; C07H0021-02 [ICS,7]; C07H0021-04 [ICS,7]; C07H0015-24 [ICS,7]; C07H0015-00 [ICS,7,C*] |
| | IPCR | C07H0017-00 [I,C*]; C07H0017-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| | NCL | 536/023.100; 435/006.000; 536/006.400; 536/022.100 |
| | ECLA | C07H017/04; C07H021/00G |

AB The present invention refers to conjugates formed by a natural or modified oligonucleotide, capable of forming a triple helix with a DNA chain, linked to the aglycon moiety of an anthracycline or to an anthracyclinone via an appropriated linker; such conjugates are capable to bind selectively to specific DNA regions inhibiting their transcription and therefore the formation of the corresponding codified protein.

ST oligodeoxyribonucleotide anthracycline anthracyclinone triplex prepn

IT DNA
**Oligodeoxyribonucleotides**
RL: SPN (Synthetic preparation); PREP (Preparation)
(anthracycline and anthracyclinone-containing; preparation of oligodeoxyribonucleotide-anthracycline and oligodeoxyribonucleotide-anthracyclinone triplexes)

IT 52744-22-6, Carminomycinone 196512-07-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of oligodeoxyribonucleotide-anthracycline and oligodeoxyribonucleotide-anthracyclinone triplexes)

IT 193009-00-6P 193009-01-7P 193160-28-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of oligodeoxyribonucleotide-anthracycline and oligodeoxyribonucleotide-anthracyclinone triplexes)

IT **193228-98-7P 193228-99-8P 193229-00-4P**
196512-05-7P 196719-12-7P **196824-81-4P 196824-93-8P**
**196824-94-9P 196824-95-0P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of oligodeoxyribonucleotide-anthracycline and oligodeoxyribonucleotide-anthracyclinone triplexes)

L64 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:381701 HCAPLUS
DN 127:149343
ED Entered STN: 19 Jun 1997
TI Synthesis and binding properties of conjugates between oligodeoxynucleotides and daunorubicin derivatives
AU Garbesi, Anna; Bonazzi, Stefania; Zanella, Stefania; Capobianco, Massimo L.; Giannini, Giuseppe; Arcamone, Federico
CS I.Co.CEA-CNR, Bologna, 40129, Italy
SO Nucleic Acids Research (**1997**), 25(11), 2121-2128
CODEN: NARHAD; ISSN: 0305-1048
PB Oxford University Press
DT Journal
LA English

CC 33-10 (Carbohydrates)
Section cross-reference(s): 1, 24
AB Conjugation of an anthracycline to a triplex-forming oligonucleotide (TFO) allows delivery of this drug to a specific DNA site, preserving the intercalation geometry of this class of anticancer agents. A conjugate in which the TFO is linked via a hexamethylene bridge to the O-4 on the D ring of the anthraquinone moiety affords the most stable triple helix, through intercalation of the planar chromophore between DNA bases and of both the TFO and the amino sugar to the major and the minor groove resp.
ST anthracycline oligodeoxynucleotide conjugate anticancer prepn; triple helix intercalation chromophore conjugate
IT Antitumor agents
(synthesis and binding properties of conjugates between oligodeoxynucleotides and daunorubicin derivs.)
IT **Oligodeoxyribonucleotides**
RL: PRP (Properties)
(synthesis and binding properties of conjugates between oligodeoxynucleotides and daunorubicin derivs.)
IT Anthracyclines
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and binding properties of conjugates between oligodeoxynucleotides and daunorubicin derivs.)
IT 193160-30-4P **193229-02-6P 193229-03-7P 193229-04-8P** 193229-05-9P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and binding properties of conjugates between oligodeoxynucleotides and daunorubicin derivs.)
IT 629-09-4, 1,6-Diiodohexane 52744-22-6, Carminomycinone 177650-91-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and binding properties of conjugates between oligodeoxynucleotides and daunorubicin derivs.)
IT 193008-99-0P 193009-00-6P 193009-01-7P 193009-02-8P 193160-28-0P 193160-29-1P **193228-98-7P 193228-99-8P 193229-00-4P** 193229-01-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and binding properties of conjugates between oligodeoxynucleotides and daunorubicin derivs.)
RE.CNT 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L64 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:184037 HCAPLUS
DN 124:254781
ED Entered STN: 30 Mar 1996
TI Conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures
IN Dinkelborg, Ludger; Hilger, Christoph-Stephan; Niedballa, Ulrich; Platzek, Johannes; Raduechel, Bernd; Speck, Ulrich
PA Schering A.-G., Germany
SO Ger. Offen., 25 pp.
CODEN: GWXXBX
DT Patent
LA German
IC ICM C07H0021-04
ICS A61K0051-00
ICA C07F0009-547
CC 8-9 (Radiation Biochemistry)
Section cross-reference(s): 33
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE | |
|---|---|---|---|---|---|---|
| PI | DE 4424922 | A1 | 19960118 | DE 1994-4424922 | 19940714 | <-- |
| | US 2002077306 | A1 | 20020620 | US 1995-488290 | 19950607 | <-- |
| | IL 114237 | A1 | 20000831 | IL 1995-114237 | 19950620 | <-- |
| | CA 2194558 | AA | 19960201 | CA 1995-2194558 | 19950630 | <-- |
| | WO 9602274 | A1 | 19960201 | WO 1995-EP2539 | 19950630 | <-- |
| | W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN | | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | | |
| | AU 9529791 | A1 | 19960216 | AU 1995-29791 | 19950630 | <-- |
| | EP 777498 | A1 | 19970611 | EP 1995-925792 | 19950630 | <-- |
| | EP 777498 | B1 | 20040428 | | | |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE | | | | | |
| | CN 1152879 | A | 19970625 | CN 1995-194000 | 19950630 | <-- |
| | HU 76329 | A2 | 19970828 | HU 1997-100 | 19950630 | <-- |
| | JP 10503182 | T2 | 19980324 | JP 1995-504630 | 19950630 | <-- |
| | RU 2165771 | C2 | 20010427 | RU 1997-102039 | 19950630 | <-- |
| | AT 265229 | E | 20040515 | AT 1995-925792 | 19950630 | <-- |
| | PT 777498 | T | 20040930 | PT 1995-925792 | 19950630 | <-- |

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| | ES 2220933 | T3 | 20041216 | ES 1995-925792 | 19950630 <-- |
| | SK 284598 | B6 | 20050701 | SK 1997-28 | 19950630 <-- |
| | CZ 295930 | B6 | 20051214 | CZ 1997-114 | 19950630 <-- |
| | ZA 9505895 | A | 19960219 | ZA 1995-5895 | 19950714 <-- |
| | TW 502040 | B | 20020911 | TW 1995-84110812 | 19951014 <-- |
| | NO 9700141 | A | 19970314 | NO 1997-141 | 19970113 <-- |
| | NO 318585 | B1 | 20050411 | | |
| | AU 9920360 | A1 | 19990617 | AU 1999-20360 | 19990312 <-- |
| | AU 721330 | B2 | 20000629 | | |
| PRAI | DE 1994-4424922 | A | 19940714 <-- | | |
| | US 1994-336127 | B2 | 19941104 <-- | | |
| | US 1994-336128 | B2 | 19941104 <-- | | |
| | DE 1994-4445078 | A | 19941205 <-- | | |
| | US 1994-357573 | B2 | 19941215 <-- | | |
| | US 1994-358065 | B2 | 19941215 <-- | | |
| | US 1995-409813 | B1 | 19950324 <-- | | |
| | AU 1995-29791 | A3 | 19950630 <-- | | |
| | WO 1995-EP2539 | W | 19950630 <-- | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| DE 4424922 | ICM | C07H0021-04 |
| | ICS | A61K0051-00 |
| | ICA | C07F0009-547 |
| | IPCI | C07H0021-04 [ICM,6]; C07H0021-00 [ICM,6,C*]; A61K0051-00 [ICS,6]; C07F0009-547 [ICA,6]; C07F0009-00 [ICA,6,C*] |
| | IPCR | A61K0051-02 [I,C*]; A61K0051-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0023-00 [I,A]; C07H0023-00 [I,C*] |
| | ECLA | A61K051/04H; C07H021/00G; C07H023/00D |
| US 2002077306 | IPCI | A61K0031-70 [ICM,7]; C12Q0001-68 [ICS,7]; C12P0019-34 [ICS,7]; C12P0019-00 [ICS,7,C*] |
| | NCL | 514/044.000; 435/006.000; 435/091.100 |
| | ECLA | A61K051/04H; C07H021/00G; C07H023/00D |
| IL 114237 | IPCI | C07H0021-04 [ICM,7]; C07H0021-00 [ICM,7,C*]; C12Q0001-16 [ICS,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| CA 2194558 | IPCI | C07H0021-00 [ICM,6]; A61K0041-00 [ICS,6]; A61K0051-06 [ICS,6]; A61K0051-02 [ICS,6,C*]; C12P0019-34 [ICS,6]; C12P0019-00 [ICS,6,C*]; G01N0033-53 [ICS,6]; C12Q0001-68 [ICS,6] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| WO 9602274 | IPCI | A61K0041-00 [ICM,6]; A61K0051-04 [ICS,6]; A61K0051-02 [ICS,6,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| | ECLA | C07H021/00G |
| AU 9529791 | IPCI | A61K0041-00 [ICM,6]; A61K0051-04 [ICS,6]; A61K0051-02 [ICS,6,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| EP 777498 | IPCI | A61K0041-00 [ICM,6]; A61K0051-04 [ICS,6]; A61K0051-02 [ICS,6,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| CN 1152879 | IPCI | A61K0041-00 [ICM,6]; A61K0051-04 [ICS,6]; A61K0051-02 [ICS,6,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| | ECLA | C07H021/00G |
| HU 76329 | IPCI | C07H0021-00 [ICM,6]; C07H0023-00 [ICS,6]; A61K0041-00 [ICS,6]; A61K0051-04 [ICS,6]; A61K0051-02 [ICS,6,C*] |

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| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| JP 10503182 | IPCI | C07H0023-00 [ICM,6]; A61K0031-70 [ICS,6]; A61K0051-00 [ICS,6]; C12Q0001-68 [ICS,6]; C12N0015-09 [ICS,6] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| RU 2165771 | IPCI | A61K0041-00 [ICM,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| AT 265229 | IPCI | A61K0041-00 [ICM,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*] |
| PT 777498 | IPCI | A61K0041-00 [ICM,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| ES 2220933 | IPCI | A61K0041-00 [ICM,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| SK 284598 | IPCI | A61K0041-00 [ICM,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*] |
| | ECLA | C07H021/00G |
| CZ 295930 | IPCI | A61K0041-00 [ICM,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*] |
| | ECLA | C07H021/00G |
| ZA 9505895 | IPCI | C07H [ICM,6]; A61K [ICS,6]; C12P [ICS,6] |
| | IPCR | A61K0051-02 [I,C*]; A61K0051-04 [I,A]; C07H0021-00 [I,A]; C07H0021-00 [I,C*]; C07H0023-00 [I,A]; C07H0023-00 [I,C*] |
| TW 502040 | IPCI | C07H0023-00 [ICM,7]; C12Q0001-68 [ICS,7] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| NO 9700141 | IPCI | C07H0021-00 [ICM,7]; A61K0051-04 [ICS,7]; A61K0051-02 [ICS,7,C*]; A61K0041-00 [ICS,7] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| | ECLA | C07H021/00G |
| AU 9920360 | IPCI | A61K0051-06 [ICM,6]; A61K0051-02 [ICM,6,C*]; A61K0041-00 [ICS,6]; C12Q0001-68 [ICS,6]; C07H0021-02 [ICS,6]; C07H0021-00 [ICS,6,C*] |
| | IPCR | A61K0041-00 [I,A]; A61K0041-00 [I,C*]; A61K0051-02 [I,C*]; A61K0051-06 [I,A]; C07H0021-00 [I,C*]; C07H0021-02 [I,A]; C12Q0001-68 [I,A]; C12Q0001-68 [I,C*] |

AB Conjugates of modified oligonucleotides with complexes of radioactive or stable metal isotopes, which bind specifically to biol. target structures, are useful in diagnostic imaging and radiotherapy. The oligonucleotides are modified to render them resistant to degradation by endogenous nucleases, e.g. by O-alkylation, halogenation, amination, or reduction at the 2' position or by replacement of phosphodiester groups by phosphorothioate, phosphorodithioate, or alkylphosphonate linkages. The oligonucleotides are selected from a random mixture for binding to a target such as a non-nucleic acid macromol., tissue, or organ. Thus, a 30-mer oligonucleotide ligand for NGF was conjugated with the linker β-cyanoethyl N,N-diisopropylamino-6-(trifluoroacetamido)-1-hexylphosphoramidite, then with 10-[7-(4-isothiocyanatophenyl)-2-hydroxy-5-oxo-7-(carboxymethyl)-4-azaheptyl]-1,4,7-tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane (preparation given), and complexed with 111In(III) for use as a radiodiagnostic agent.

ST oligonucleotide metal complex diagnostic imaging; radionuclide complex oligonucleotide scintigraphy

IT Rare earth metals, biological studies
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(complexes, with chelating agent-oligonucleotide conjugates; conjugates

of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT Imaging
Radiotherapy
Scintigraphy
(conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT Chelating agents
(conjugates with oligonucleotides; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT Animal tissue
Organ
(oligonucleotide binding by, for imaging; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT Biopolymers
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(oligonucleotide binding by, for imaging; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT Ligands
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(oligonucleotides, conjugates with metal complexes; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT Radioelements, biological studies
Transition metal compounds
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(complexes, with chelating agent-oligonucleotide conjugates; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT Coordination compounds
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(conjugates, with oligonucleotides; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT **Nucleotides, biological studies**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(**oligo-**, 2'-modified, conjugates with metal complexes; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 144322-29-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(NGF ligand; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 10098-91-6DP, Yttrium-90, complex with oligonucleotide-chelating agent conjugate, biological studies 13981-25-4DP, Copper-64, complex with oligonucleotide-chelating agent conjugate, biological studies 14119-09-6DP, Gallium-67, complex with oligonucleotide-chelating agent conjugate, biological studies 14133-76-7DP, Technetium-99, complexes with oligonucleotide-chelating agent conjugates, biological studies

14913-49-6DP, Bismuth-212, complex with oligonucleotide-chelating agent conjugate, biological studies 15750-15-9DP, Indium-111, complex with oligonucleotide-chelating agent conjugate, biological studies 175279-02-4DP, technetium-99m complexes 175279-03-5DP, yttrium-90 complexes 175387-29-8DP, indium-111 complexes 175387-30-1DP, bismuth-212 complexes **175387-32-3DP**, technetium-99m complexes 175387-33-4DP, technetium-99m complexes 175387-34-5DP, technetium-99m complexes 175387-35-6DP, copper-64 complex 175387-36-7DP, yttrium-90 complexes 175387-37-8DP, gallium-67 complex 175387-39-0DP, technetium-99m complexes 175387-40-3DP, technetium-99m complexes 175387-42-5DP, technetium-99m complexes 175387-44-7DP, technetium-99m complexes 175387-45-8DP, technetium-99m complexes 175387-46-9DP, yttrium-90 complexes
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 7429-91-6D, Dysprosium, complexes with chelating agent-oligonucleotide conjugates 7439-88-5D, Iridium, complexes with chelating agent-oligonucleotide conjugates 7439-89-6D, Iron, complexes with chelating agent-oligonucleotide conjugates 7439-91-0D, Lanthanum, complexes with chelating agent-oligonucleotide conjugates 7439-92-1D, Lead, complexes with chelating agent-oligonucleotide conjugates 7439-94-3D, Lutetium, complexes with chelating agent-oligonucleotide conjugates 7439-96-5D, Manganese, complexes with chelating agent-oligonucleotide conjugates 7439-97-6D, Mercury, complexes with chelating agent-oligonucleotide conjugates 7439-98-7D, Molybdenum, complexes with chelating agent-oligonucleotide conjugates 7440-00-8D, Neodymium, complexes with chelating agent-oligonucleotide conjugates 7440-02-0D, Nickel, complexes with chelating agent-oligonucleotide conjugates 7440-04-2D, Osmium, complexes with chelating agent-oligonucleotide conjugates 7440-06-4D, Platinum, complexes with chelating agent-oligonucleotide conjugates 7440-10-0D, Praseodymium, complexes with chelating agent-oligonucleotide conjugates 7440-12-2D, Promethium, complexes with chelating agent-oligonucleotide conjugates 7440-15-5D, Rhenium, complexes with chelating agent-oligonucleotide conjugates 7440-18-8D, Ruthenium, complexes with chelating agent-oligonucleotide conjugates 7440-19-9D, Samarium, complexes with chelating agent-oligonucleotide conjugates 7440-20-2D, Scandium, complexes with chelating agent-oligonucleotide conjugates 7440-25-7D, Tantalum, complexes with chelating agent-oligonucleotide conjugates 7440-26-8D, Technetium, complexes with chelating agent-oligonucleotide conjugates 7440-27-9D, Terbium, complexes with chelating agent-oligonucleotide conjugates 7440-28-0D, Thallium, complexes with chelating agent-oligonucleotide conjugates 7440-30-4D, Thulium, complexes with chelating agent-oligonucleotide conjugates 7440-32-6D, Titanium, complexes with chelating agent-oligonucleotide conjugates 7440-33-7D, Tungsten, complexes with chelating agent-oligonucleotide conjugates 7440-42-8D, Boron, complexes with chelating agent-oligonucleotide conjugates 7440-45-1D, Cerium, complexes with chelating agent-oligonucleotide conjugates 7440-47-3D, Chromium, complexes with chelating agent-oligonucleotide conjugates 7440-48-4D, Cobalt, complexes with chelating agent-oligonucleotide conjugates 7440-50-8D, Copper, complexes with chelating agent-oligonucleotide conjugates 7440-52-0D, Erbium, complexes with chelating agent-oligonucleotide conjugates 7440-53-1D, Europium, complexes with chelating agent-oligonucleotide conjugates 7440-54-2D, Gadolinium, complexes with chelating agent-oligonucleotide conjugates 7440-55-3D, Gallium, complexes with chelating agent-oligonucleotide conjugates

7440-57-5D, Gold, complexes with chelating agent-oligonucleotide conjugates 7440-58-6D, Hafnium, complexes with chelating agent-oligonucleotide conjugates 7440-60-0D, Holmium, complexes with chelating agent-oligonucleotide conjugates 7440-62-2D, Vanadium, complexes with chelating agent-oligonucleotide conjugates 7440-64-4D, Ytterbium, complexes with chelating agent-oligonucleotide conjugates 7440-65-5D, Yttrium, complexes with chelating agent-oligonucleotide conjugates 7440-68-8D, Astatine, complexes with chelating agent-oligonucleotide conjugates 7440-69-9D, Bismuth, complexes with chelating agent-oligonucleotide conjugates 7440-74-6D, Indium, complexes with chelating agent-oligonucleotide conjugates
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 76-83-5, Triphenylmethyl chloride 2776-60-5, Glycylglycine methyl ester hydrochloride 4048-33-3, 6-Aminohexanol 4781-83-3 5437-45-6, Benzyl bromoacetate 5455-98-1, N-(2,3-Epoxypropyl)phthalimide 6066-82-6, N-Hydroxysuccinimide 34805-17-9 34914-36-8 53911-69-6 81186-33-6 84611-23-4 86030-43-5 114873-37-9, 1,4,7-Tris(carboxymethyl)-1,4,7,10-tetraazacyclododecane 116919-17-6 121557-52-6 121806-83-5 122497-12-5 131274-04-9 133975-85-6 137174-07-3 155269-64-0 157022-76-9 159639-90-4 164575-76-2 174701-10-1 174701-34-9 174701-35-0 175387-46-9 175387-47-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 146270-94-2P 174700-60-8P 174700-61-9P 174700-62-0P 174700-63-1P 174701-08-7P 174701-09-8P 174701-15-6P 174701-16-7P 174701-17-8P 174701-18-9P 174701-19-0P 174701-20-3P 174701-21-4P 174701-22-5P 174701-23-6P 174701-24-7P 174701-25-8P 174701-26-9P 174701-27-0P 174701-28-1P 174701-29-2P 174701-30-5P 174701-31-6P 174701-32-7P 174701-33-8P 175279-02-4P 175279-03-5P 175387-28-7P 175387-29-8P 175387-30-1P 175387-31-2P **175387-32-3P** 175387-33-4P 175387-34-5P 175387-35-6P 175387-36-7P 175387-37-8P 175387-38-9P 175387-39-0P 175387-40-3P 175387-41-4P 175387-42-5P 175387-43-6P 175387-44-7P 175387-45-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 9061-61-4, NGF 37259-58-8, Serine proteinase
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(oligonucleotide ligand for; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 9026-81-7, Nuclease
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(resistance to; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

IT 144322-22-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(serine proteinase ligand; conjugates of metal complexes and oligoribonucleotides which bind specifically to selected target structures)

L64 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1994:573214 HCAPLUS
DN 121:173214

ED Entered STN: 15 Oct 1994
TI Effect of derivatization of ribophosphate backbone and terminal ribophosphate groups in oligoribonucleotides on their stability and interaction with eukaryotic cells
AU Boutorine, A. S.; Venyaminova, A. G.; Repkova, M. N.; Sergueyeva, Z. A.; Pyshnyi, D. V.
CS Sib. Div., Inst. Bioorg. Chem., Novosibirsk, 630090, Russia
SO Biochimie (**1994**), 76(1), 23-32
CODEN: BICMBE; ISSN: 0300-9084
DT Journal
LA English
CC 6-2 (General Biochemistry)
AB Various derivs. of oligoribonucleotides were synthesized by the H-phosphonate method. Different modifications of the ribophosphate backbone were designed in order to protect the derivs. against nucleolytic enzymes present in the biol. media. These modifications include coupling of fluorescein moiety to 3'-terminal ribose, 2'-O-methylation of ribose, introduction of phosphoroamidates and coupling of the last 3'-terminal nucleotide via the 3'-3'-phosphodiester bond. All modifications were tested for their effect on the stability of the derivs. against phosphodiesterase from snake venom and nucleases of the cell culture media. 2'-O-methylated oligoribonucleotides containing either terminal 3'-3'-linkage or two 3'-terminal phosphoroamidate internucleotide bonds appeared to be the most stable under the most severe conditions used. The results demonstrate a possibility to use protected oligoribonucleotide derivs. for expts. in vivo when the use of deoxy-analogs might be ineffective. The uptake of 2'-O-methylated derivs. and their 5'-cholesterol conjugates (coupled via a disulfide bond) by human carcinoma cells did not differ from that of the corresponding oligodeoxyribonucleotides. 85% Of the bound derivs. were found in the membrane-cytosolic fraction, while only 15% were found in the nuclear fraction. The oligonucleotide moiety of 2'-O-methyloligoribonucleotide-cholesterol conjugate was not translocated through the cellular membrane. After cleavage of the linkage between cholesterol and oligonucleotide by dithiothreitol the major portion of the oligonucleotide moiety was released into the media. The derivs., as well as their 5'-cholesterol conjugates, which entered the cells, were stable and protected from action of dithiothreitol dissolved in culture media. These results demonstrate an endocytosis mechanism of penetration as observed in similar expts. using oligodeoxyribonucleotides.
ST oligoribonucleotide deriv stability uptake eukaryote
IT Eukaryote
(oligoribonucleotides and cholesterol conjugates uptake by, derivatization of ribophosphate backbone and terminal ribophosphate groups effect on)
IT Ribonucleic acids
RL: BIOL (Biological study)
(stability of and eukaryotic cells interaction with, derivatization of ribophosphate backbone and terminal ribophosphate groups effect on)
IT Animal cell line
(T-24, oligoribonucleotide-cholesterol conjugates uptake by)
IT Biological transport
(absorption, of oligoribonucleotides and cholesterol conjugates, by eukaryotic cells, derivatization of ribophosphate backbone and terminal ribophosphate groups effect on)
IT **Nucleotides, biological studies**
RL: BIOL (Biological study)
(**oligo-**, stability of and eukaryotic cells interaction with, derivatization of ribophosphate backbone and terminal ribophosphate groups effect on)

IT 9025-82-5, Phosphodiesterase
RL: PRP (Properties)
(oligoribonucleotides degradation by, derivatization of ribophosphate backbone and terminal ribophosphate groups response to)
IT 9026-81-7, Nuclease
RL: PRP (Properties)
(oligoribonucleotides degradation by, of eukaryotic cell culture media, derivatization of ribophosphate backbone and terminal ribophosphate groups effect on)
IT **157818-12-7**
RL: PRP (Properties)
(phosphodiesterase and nuclease degradation anal. of and eukaryotic cells uptake of)
IT 157818-11-6P 157818-13-8P 157818-14-9P 157818-15-0P 157818-16-1P 157818-17-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn and phosphodiesterase and nuclease degradation anal. of and eukaryotic cells uptake of)
IT 157818-18-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with fluoresceine-adipic acid dihydrazide conjugate)
IT 157597-83-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with oligoribonucleotide)
IT 148433-72-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with oligoribonucleotides)
IT 149225-42-3 157818-19-4
RL: PROC (Process)
(uptake of, by T24 human carcinoma cells, kinetics of)

L64 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1994:271031 HCAPLUS
DN 120:271031
ED Entered STN: 28 May 1994
TI Use of a base-labile protected derivative of 6-mercaptohexanol for the preparation of oligonucleotides containing a thiol group at the 5'-end
AU de la Torre, Beatriz G.; Avino, Anna Maria; Escarceller, Monica; Royo, Miriam; Albericio, Fernando; Eritja, Ramon
CS Dep. Mol. Genet., CSIC, Barcelona, 08034, Spain
SO Nucleosides & Nucleotides (**1993**), 12(9), 993-1005
CODEN: NUNUD5; ISSN: 0732-8311
DT Journal
LA English
CC 33-9 (Carbohydrates)
Section cross-reference(s): 34
AB The preparation of a base-labile 2,4-dinitrophenylethyl (dnpe) protected derivative of 6-mercaptohexanol is described. The use of the phosphoramidite derivative of this compound improves both yields and the time needed for the preparation of oligonucleotides containing a thiol group at the 5'-end.
ST oligodeoxyribonucleotide prepn dinitrophenylethyl protective group; nucleotide oligodeoxyribo prepn dinitrophenylethyl protective group; peptide coupling oligodeoxyribonucleotide; digoxigenin coupling oligodeoxyribonucleotide
IT Protective groups
(preparation of oligodeoxyribonucleotides using dinitrophenylethyl as protective group)
IT **Nucleotides, polymers**
RL: SPN (Synthetic preparation); PREP (Preparation)

(**oligo-**, deoxyribo-, preparation of oligodeoxyribonucleotides using dinitrophenylethyl as protective group)
IT 9001-78-9, Alkaline phosphatase 9025-82-5, Phosphodiesterase
RL: PROC (Process)
(hydrolysis of oligodeoxyribonucleotides in presence of)
IT 1633-78-9P 40145-10-6P 60680-77-5P 100360-57-4P 154509-85-0P 154509-86-1P 154509-87-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(intermediate in preparation of oligonucleotides containing a thiol group at the 5'-end)
IT 154509-84-9P 154804-70-3P 154804-71-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and coupling with peptide and digoxigenin)
IT 154509-83-8P 154804-68-9P 154804-69-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and deblocking of)
IT 135625-44-4P 154509-88-3P 154804-72-5P 154804-73-6P **154804-74-7P 154804-75-8P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 103-63-9 2009-83-8 3695-77-0 16721-80-5, Sodium sulfide (Na(SH)) 89992-70-1 135607-77-1 154509-89-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant, in preparation of oligonucleotides containing a thiol group at the 5'-end)

L64 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1992:402110 HCAPLUS
DN 117:2110
ED Entered STN: 11 Jul 1992
TI Solution studies on the structure of bent DNA in the cAMP receptor protein-lac DNA complex
AU Heyduk, Tomasz; Lee, James C.
CS Dep. Hum. Biol. Chem. Genet., Univ. Texas, Galveston, TX, 77550, USA
SO Biochemistry (**1992**), 31(22), 5165-71
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
CC 3-4 (Biochemical Genetics)
Section cross-reference(s): 6
AB CAMP receptor protein (CRP) is involved in the regulation of >20 genes. A step in the mechanism of activation of transcription is to induce a significant bending of the DNA upon complex formation between specific DNA and the protein. The induced DNA bending and a structure of the protein-DNA complex were studied by fluorescence energy transfer in 50 mM Tris, 1 mM EDTA, and 50 mM KCl at pH 7.8 and 20°. The symmetry of the DNA bend was estimated by measuring the efficiency of transfer between the protein and a label on either the upstream or the downstream end of a lac DNA fragment. The bend, despite the asymmetry in the DNA sequence, is sym. for 26-40 bp fragments. Using fluorescence energy transfer, the extent of DNA bending was estimated by measuring the end-to-end distance of the DNA fragment which was labeled with a donor-acceptor pair on two opposite ends. Both steady-state and time-resolved measurements showed that in a 26-bp lac DNA fragment complexed with CRP, the end-to-end distance is .apprx.77 Å which corresponds to a bending angle of 80° or 100°, depending on the actual contour length between the fluorophores in the free DNA fragment. The results using longer DNA fragments show no measurable amount of energy transfer; thus, it is very

unlikely that the DNA completely wraps around the CRP mol. This study shows that the approach of fluorescence energy transfer has proven to be a versatile technique to provide useful structural information on the DNA-protein complex in potentially any solution conditions.

ST DNA bent conformation cAMP receptor protein; lac promoter DNA cAMP receptor protein

IT Transcription, genetic
(activation of, by cAMP receptor protein, fluorescence energy transfer study of bent DNA structure in)

IT Conformation and Conformers
(bent, of lac promoter DNA fragment in complex with cAMP receptor protein, fluorescence energy transfer study of)

IT Ribonucleic acid formation factors
RL: BIOL (Biological study)
(CAP (catabolite gene activator protein), complexes with lac promoter DNA fragment, bent DNA conformation in, fluorescence energy transfer study of)

IT Deoxyribonucleoproteins
RL: PRP (Properties)
(RNA formation factor CAP-containing, bent DNA conformation in, fluorescence energy transfer study of)

IT Genetic element
RL: BIOL (Biological study)
(promoter, of lac gene, cAMP receptor protein complex with DNA fragment of, bent DNA conformation in, fluorescence energy transfer study of)

IT Gene, microbial
RL: BIOL (Biological study)
(lac, promoter of, cAMP receptor protein complex with DNA fragment of, bent DNA conformation in, fluorescence energy transfer study of)

IT 141634-61-9 141634-64-2 141634-65-3
RL: BIOL (Biological study)
(bending of, symmetry and degree of, cAMP receptor protein binding effect on, transcriptional regulation of lac promoter in relation to)

IT 76877-33-3 141584-70-5 141584-71-6 **141634-62-0**
**141634-63-1 141706-80-1 141706-81-2**
RL: PRP (Properties)
(spectroscopic properties of)

L64 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1992:194779 HCAPLUS
DN 116:194779
ED Entered STN: 16 May 1992
TI Solid-phase preparation of 5',3'-heterobifunctional oligodeoxynucleotides using modified solid supports
AU Asseline, Ulysse; Bonfils, Edwige; Kurfurst, Robin; Chassignol, Marcel; Roig, Victoria; Nguyen Thanh Thuong
CS Cent. Biophys. Mol., CNRS, Orleans, 45071, Fr.
SO Tetrahedron (**1992**), 48(7), 1233-54
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA English
CC 33-9 (Carbohydrates)
AB The solid-phase preparation of oligodeoxyribonucleotides attached to intercalator or reactive groups through their 5'- and (or) 3'-ends, is reported. These syntheses implicate the introduction of suitable masked functional groups at the 5'-end of the oligonucleotide by the intermediate of their phosphoramidite derivs. or at the 3'-end of the oligonucleotide using modified solid supports. After full deblocking, the functional groups (phosphate, thiophosphate, primary amine, or thiol) can be reacted with the suitable reactive group in the chosen ligand. These methods

allow the preparation of heterobifunctional derivatized oligodeoxyribonucleotides.
ST oligodeoxynucleotide heterobifunctional solid phase prepn; nucleotide oligodeoxy solid phase prepn
IT **Nucleotides, polymers**
RL: SPN (Synthetic preparation); PREP (Preparation)
(**oligo-**, deoxyribo-, 5',3'-heterobifunctional, preparation of, solid-phase)
IT 5197-62-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(iodination of)
IT 62573-16-4P 124685-36-5P 124685-37-6P 124685-38-7DP, solid support 136055-02-2P 136055-03-3DP, polymer support 140613-60-1DP, solid support
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, in synthesis of oligodeoxyribonucleotides)
IT 97463-42-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and tritylation of)
IT 124685-43-4P 131871-56-2P 140613-58-7P 140632-93-5P 140698-21-1P 140698-28-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
IT 128072-19-5P 136055-06-6P 136072-48-5P 136072-52-1P 136082-64-9P 136214-76-1P 140613-59-8P 140698-19-7P **140698-20-0P** **140698-22-2P** 140698-29-9P 140698-32-4P 140698-33-5P 140698-34-6P 140698-36-8P 140698-37-9P 140698-39-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, solid-phase)
IT 2127-03-9, 2,2'-Dithiodipyridine 4048-33-3, 6-Amino-1-hexanol 63368-54-7 98796-51-1D, N-acetylated 102690-88-0 140613-55-4D, N-acetylated 140613-56-5D, N-acetylated 140613-57-6D, N-acetylated 140613-61-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in synthesis of oligodeoxyribonucleotides)
IT 1892-29-1, 2,2'-Dithiodiethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(tritylation of, in synthesis of oligodeoxyribonucleotides)

L64 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:77868 HCAPLUS
DN 112:77868
ED Entered STN: 03 Mar 1990
TI Preparation of ologodeoxynucleotide 5'-terminators in preparation of antivirals
IN Cohen, J. S.; Mori, K.; Matsukura, M.
PA United States Dept. of Health and Human Services, USA
SO U. S. Pat. Appl., 13 pp. Avail. NTIS Order No. PAT-APPL-6-340 073.
CODEN: XAXXAV
DT Patent
LA English
CC 33-9 (Carbohydrates)
Section cross-reference(s): 1
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|---|
| PI | US 340073 | A0 | 19890815 | US 1989-340073 | 19890418 <-- |
| | CA 2049361 | AA | 19901019 | CA 1990-2049361 | 19900323 <-- |

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|---|---|---|---|---|---|
| WO 9012802 | | A1 | 19901101 | WO 1990-US1501 | 19900323 <-- |
| W: AU, CA, JP | | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE | | | | | |
| AU 9055263 | | A1 | 19901116 | AU 1990-55263 | 19900323 <-- |
| AU 633911 | | B2 | 19930211 | | |
| EP 469042 | | A1 | 19920205 | EP 1990-906714 | 19900323 <-- |
| R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, LU, NL, SE | | | | | |
| JP 04500679 | | T2 | 19920206 | JP 1990-506417 | 19900323 <-- |
| PRAI US 1989-340073 | | A | 19890418 <-- | | |
| WO 1990-US1501 | | A | 19900323 <-- | | |

CLASS

| PATENT NO. | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---|---|---|
| CA 2049361 | IPCI | C07H0015-12; C07H0015-00 [C*] |
| WO 9012802 | IPCI | C07H0015-12 [ICM,5]; C07H0015-00 [ICM,5,C*]; C07H0017-00 [ICS,5]; A61K0031-70 [ICS,5] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| AU 9055263 | IPCI | C07H0017-00 [ICM,5]; C07H0015-12 [ICS,5]; C07H0015-00 [ICS,5,C*]; A61K0031-70 [ICS,5] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| EP 469042 | IPCI | C07H0015-12 [ICM,5]; C07H0015-00 [ICM,5,C*]; C07H0017-00 [ICS,5]; A61K0031-70 [ICS,5] |
| | IPCR | C07H0021-00 [I,A]; C07H0021-00 [I,C*] |
| JP 04500679 | IPCI | C07H0021-04 [ICM,5]; C07H0021-00 [ICM,5,C*] |

AB 5'-Terminators are synthesized and used to modify antiviral oligodeoxynucleotides for use, e.g., in inhibiting the HIV virus (no data). 1-Chloroanthraquinone was heated with 1-(2-hydroxyethyl)piperazine at 150° for 30 min, the resulting 1-[4-[(2-hydroxyethyl)piperazinyl]anthraquinone was treated with EtN(OCHMe2)2 in CH2Cl2 and MeOPClN(CHMe2)2 to give the corresponding N,N-diisopropylphosphoramidite Me ester (I). In an automated synthesizer, I was condensed with the phosphorothioate oligodeoxynucleotide d(5'-TCG TCG CTG TCT CCG CTT CTT CCT GCC A) at the 5' end by standard techniques to give, after deblocking, the corresponding oligodeoxynucleotide with anthraquinone covalently linked at the 5' end through the piperazine linker. The compds. are potentially more selective and more stable against nucleases than conventional drugs.

ST oligodeoxynucleotide terminator prepn; nucleotide oligodeoxy terminator prepn; anthracenylpiperazinylethyl phosphoramidite prepn; antiviral modified oligodeoxynucleotide prepn; HIV inhibitor modified oligodeoxynucleotide prepn

IT Virucides and Virustats
(for HIV, 5'-modified phosphorothioate-linked oligodeoxyribonucleotides)

IT Virus, animal
(human immunodeficiency 1, inhibitors, 5'-modified phosphorothioate-linked oligodeoxyribonucleotides)

IT **Nucleotides, polymers**
RL: SPN (Synthetic preparation); PREP (Preparation)
(**oligo-**, deoxyribo-, thiophosphate-linked, preparation and 5'-end modification of, in preparation of antivirals)

IT 86030-43-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with [(hydroyethyl)piperazinyl]anthraquinone)

IT 115427-90-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with anthracenylethyl phosphoramidite derivative)

IT 100360-56-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(condensation of, with diisopropylphosphorochloramidite)

IT 122482-20-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and condensation of, with diisopropylphosphorochloramidite)
IT 123861-70-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and condensation of, with oligodeoxynucleotides)
IT **124540-09-6P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as terminator for oligodeoxythionucleotides)
IT 103-76-4, 1-(2-Hydroxyethyl)piperazine
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reaction of, with chloroanthraquinone)
IT 82-44-0, 1-Chloroanthraquinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reaction of, with piperazinylethanol)

L64 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:526495 HCAPLUS
DN 111:126495
ED Entered STN: 14 Oct 1989
TI Oligodeoxynucleotide analogs with 5'-linked anthraquinone
AU Mori, Kenya; Subasinghe, Chrisanthi; Cohen, Jack S.
CS Med. Branch, Natl. Cancer Inst., Bethesda, MD, 20892, USA
SO FEBS Letters (**1989**), 249(2), 213-18
CODEN: FEBLAL; ISSN: 0014-5793
DT Journal
LA English
CC 1-5 (Pharmacology)
Section cross-reference(s): 33
AB Novel 5'-linked oligodeoxynucleotides, both normal phosphodiester and phosphorothioate analogs, in which a covalently attached group at the 5'-terminus is an anthraquinone were prepared These compds. represent a new class of antisense compds. in which the base sequence of the oligodeoxynucleotide serves to deliver a nuclease-resistant reactive drug-like mol. to a cellular target nucleic acid (mRNA or DNA). The anthraquinone derivs. exhibited anti-HIV activity in an in vitro assay system.
ST oligodeoxynucleotide analog anthraquinone; virucide oligodeoxynucleotide analog anthraquinone
IT Heat of fusion and Heat of freezing
(of oligodeoxynucleotide analogs linked with anthraquinone)
IT Virucides and Virustats
(oligodeoxynucleotide analogs linked with anthraquinone)
IT **Nucleotides, polymers**
RL: SPN (Synthetic preparation); PREP (Preparation)
(**oligo-**, deoxyribo-, anthraquinone analogs, preparation and virucidal activity of)
IT 54540-27-1 122482-15-9 122635-42-1 122635-43-2
RL: BIOL (Biological study)
(melting temperature and reaction with anthraquinone derivs. of)
IT 122482-16-0P 122482-17-1P 122497-29-4P **122635-18-1P**
122635-19-2P **122635-20-5P** 122635-21-6P **122635-46-5P**
122635-47-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and melting temperature and HIV virucidal activity of)
IT 122482-20-6P 122482-21-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and phosphoramidation of)
IT 122482-22-8P 122482-23-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and reaction of, with oligonucleotides)
IT 82-44-0, 1-Chloroanthraquinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with (hydroxyethyl)piperazine or hydroxyhexylamine)
IT 54284-61-6 122482-18-2 122482-19-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with anthraquinone derivs.)
IT 103-76-4, 1-(2-Hydroxyethyl)piperazine 4048-33-3, 6-Aminohexanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with chloroanthraquinone)
IT 110972-27-5, N,N-Diisopropylmethylphosphonamidic chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with hydroxyethylpiperazinyl- or hydroxyethylamino-anthraquinone derivs.)

=> sel hit rn l64
E15 THROUGH E47 ASSIGNED

=> fil reg
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http://www.cas.org/ONLINE/UG/regprops.html

=> => d sqide can tot

L66 ANSWER 1 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **435230-07-2** REGISTRY
CN **L-α-Glutamine, N-[4-[[(1R)-1-(mercaptomethyl)-2-oxo-2-[[trans-4-(phosphonooxy)cyclohexyl]amino]ethyl]amino]-1,4-dioxobutyl]-L-prolyl-L-threonyl-L-seryl-L-glutaminyl-L-seryl-L-arginylglycyl-L-α-aspartyl-L-prolyl-L-threonylglycyl-L-prolyl-L-lysyl-, (1→5')-ester with DNA d(G-C-T-C-C-C-A-G-G-C-T-C-A-A-A) (9CI)** (CA INDEX NAME)

FS NUCLEIC ACID SEQUENCE
SQL 15
NA 4 a 6 c 3 g 2 t
NTE conjugated
modified

| type | location | description |
|---|---|---|
| modified base | g-1 | 5'-ester |

SEQ 1 gctcccaggc tcaaa

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Conference
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 137:20554

L66 ANSWER 2 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **329991-05-1** REGISTRY
CN **DNA, d(G-C-T-C-C-C-A-G-G-C-T-C-A-A-A), (1→5')-ester with N-[4-[[(1R)-1-(mercaptomethyl)-2-oxo-2-[[trans-4-(phosphonooxy)cyclohexyl]amino]ethyl]amino]-1,4-dioxobutyl]glycyl-L-arginyl-L-lysyl-L-lysyl-L-arginyl-L-arginyl-L-glutaminyl-L-arginyl-L-arginyl-L-argininamide (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 15
NA 4 a 6 c 3 g 2 t
NTE

| type | location | description |
|---|---|---|
| modified base | g-1 | 5'-ester |

SEQ 1 gctcccaggc tcaaa

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:237835

L66 ANSWER 3 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **308147-58-2** REGISTRY
CN **DNA, d(P-thio)(T-G-G-G-A-G-C-C-G-T-A-G-C-G-A-G-G-C), 3'-[O-[3-[[4-[[3,4-dihydro-2,5,7,8-tetramethyl-2-(4,8,12-**

**trimethyltridecyl)-2H-1-benzopyran-6-yl]oxy]-1,4-dioxobutyl]amino]-2-hydroxypropyl] hydrogen phosphorothioate] (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 18
NA 3 a 4 c 9 g 2 t
NTE

| type | location | | | description |
|---|---|---|---|---|
| modified base | c-18 | | | 3'-ester |
| modified link | t-1 | - | g-2 | P-thio |
| modified link | g-2 | - | g-3 | P-thio |
| modified link | g-3 | - | g-4 | P-thio |
| modified link | g-4 | - | a-5 | P-thio |
| modified link | a-5 | - | g-6 | P-thio |
| modified link | g-6 | - | c-7 | P-thio |
| modified link | c-7 | - | c-8 | P-thio |
| modified link | c-8 | - | g-9 | P-thio |
| modified link | g-9 | - | t-10 | P-thio |
| modified link | t-10 | - | a-11 | P-thio |
| modified link | a-11 | - | g-12 | P-thio |
| modified link | g-12 | - | c-13 | P-thio |
| modified link | c-13 | - | g-14 | P-thio |
| modified link | g-14 | - | a-15 | P-thio |
| modified link | a-15 | - | g-16 | P-thio |
| modified link | g-16 | - | g-17 | P-thio |
| modified link | g-17 | - | c-18 | P-thio |

SEQ 1 tgggagccgt agcgaggc

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:5118

L66 ANSWER 4 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **295810-41-2** REGISTRY
CN **DNA, d(A-G-C-T-C-C-C-A-G-G-C-T-C-A-A), (1→5')-ester with N-[4-[[(1R)-1-(mercaptomethyl)-2-oxo-2-[[trans-4-(phosphonooxy)cyclohexyl]amino]ethyl]amino]-1,4-dioxobutyl]-L-alanyl-L-leucyl-L-prolyl-L-prolyl-L-leucyl-L-α-glutamyl-L-arginyl-L-leucyl-L-threonyl-L-leucinamide (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 15
NA 4 a 6 c 3 g 2 t
NTE

| type | location | | | description |
|---|---|---|---|---|
| modified base | a-1 | | | 5'-ester |

SEQ 1 agctcccagg ctcaa

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:237835

REFERENCE 2: 133:252734

L66 ANSWER 5 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **295810-40-1** REGISTRY
CN **DNA, d(G-C-T-C-C-C-A-G-G-C-T-C-A-A-A), (1→5')-ester with N-[4-[[(1R)-1-(mercaptomethyl)-2-oxo-2-[[trans-4-(phosphonooxy)cyclohexyl]amino]ethyl]amino]-1,4-dioxobutyl]-L-alanyl-L-leucyl-L-prolyl-L-prolyl-L-leucyl-L-α-glutamyl-L-arginyl-L-leucyl-L-threonyl-L-leucinamide (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 15
NA 4 a 6 c 3 g 2 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | g-1 | 5'-ester |

SEQ 1 gctcccaggc tcaaa

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:237835

REFERENCE 2: 133:252734

L66 ANSWER 6 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **295810-39-8** REGISTRY
CN **DNA, d(G-C-T-C-C-C-A-G-G-C-T-C-A-A-A), (1→5')-ester with N-[5-[[(1R)-1-(mercaptomethyl)-2-oxo-2-[[trans-4-(phosphonooxy)cyclohexyl]amino]ethyl]amino]-2,5-dioxopentyl]glycyl-L-leucylglycyl-L-isoleucylglycinamide (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 15

NA 4 a 6 c 3 g 2 t
NTE

| type | location | description |
|---|---|---|
| modified base | g-1 | 5'-ester |

SEQ 1 gctcccaggc tcaaa

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:237835

REFERENCE 2: 133:252734

L66 ANSWER 7 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **294900-80-4** REGISTRY
CN **DNA, d(A-G-C-T-C-C-C-A-G-G-C-T-C-A-A), (1→5')-ester with N-[5-[[(1R)-1-(mercaptomethyl)-2-oxo-2-[[trans-4-(phosphonooxy)cyclohexyl]amino]ethyl]amino]-2,5-dioxopentyl]glycyl-L-leucylglycyl-L-isoleucylglycinamide (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 15
NA 4 a 6 c 3 g 2 t
NTE

| type | location | description |
|---|---|---|
| modified base | a-1 | 5'-ester |

SEQ 1 agctcccagg ctcaa

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:237835

REFERENCE 2: 133:252734

L66 ANSWER 8 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **294900-79-1** REGISTRY

CN **L-α-Glutamine, N-[4-[[(1R)-1-(mercaptomethyl)-2-oxo-2-[[trans-4-(phosphonooxy)cyclohexyl]amino]ethyl]amino]-1,4-dioxobutyl]-L-prolyl-L-threonyl-L-seryl-L-glutaminyl-L-seryl-L-arginylglycyl-L-α-aspartyl-L-prolyl-L-threonylglycyl-L-prolyl-L-lysyl-, (1→5')-ester with DNA d(G-C-T-C-C-C-A-G-G-C-T-C-A-A-A) (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 15
NA 4 a 6 c 3 g 2 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | g-1 | 5'-ester |

SEQ 1 gctcccaggc tcaaa

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 134:237835

REFERENCE 2: 133:252734

L66 ANSWER 9 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **229016-44-8** REGISTRY
CN DNA, d([5-[3-[[2-[[3-[4-[(1E,4E,7E,10E,13E,16E,19E,22E,25E,28E)-decamethyl-1,4,7,10,13,16,19,22,25,28-triacontadecaenyl]-5-methyl-2-methoxy-3,6-dioxo-1,4-cyclohexadien-1-yl]-1-oxopropyl]amino]ethyl]amino]-3-oxo-1-propenyl]]U-A-G-T-C-G-G-A-A-G-C-[3'-O-(2-mercaptoethyl)]A) (9CI) (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 12
NA 4 a 2 c 4 g 1 t 1 u
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | u-1 | 5-substituted |
| modified base | a-12 | 3'-substituted |

SEQ 1 uagtcggaag ca

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: ANST (Analytical study); USES (Uses)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 131:69262

L66 ANSWER 10 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **196824-95-0** REGISTRY
CN **DNA, d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-C-T-T-T-C-G-T-C-C-T), complex with DNA d(A-G-G-A-C-G-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) and DNA d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(8S,10S)-8-acetyl-10-[(3-amino-2,3,6-trideoxy-α-L-lyxo-hexopyranosyl)oxy]-5,7,8,9,10,12-hexahydro-6,8,11-trihydroxy-5,12-dioxo-1-naphthacenyl]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 56,22,22,12
NA 14 a 11 c 8 g 23 t
NTE multistranded (3)
modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1[3] | 5'-ester |

SEQ 1 aaagttcttc ttctttcgtc ct

SEQ 1 aggacgaaag aagaagaact tt

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:278418

L66 ANSWER 11 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **196824-94-9** REGISTRY
CN **DNA, d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-C-T-T-T-C-G-T-C-C-T), complex with DNA d(A-G-G-A-C-G-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) and DNA d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(8S,10S)-8-acetyl-5,7,8,9,10,12-hexahydro-6,8,10,11-tetrahydroxy-5,12-dioxo-1-naphthacenyl]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 56,22,22,12
NA 14 a 11 c 8 g 23 t
NTE multistranded (3)
modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1[3] | 5'-ester |

SEQ 1 aaagttcttc ttctttcgtc ct

SEQ 1 aggacgaaag aagaagaact tt

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:278418

L66 ANSWER 12 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **196824-93-8** REGISTRY
CN **DNA, d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-C-T-T-T-C-G-T-C-C-T), complex with DNA d(A-G-G-A-C-G-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) and DNA d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(2S,4S)-2-acetyl-1,2,3,4,6,11-hexahydro-2,4,7,12-tetrahydroxy-6,11-dioxo-5-naphthacenyl]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 56,22,22,12
NA 14 a 11 c 8 g 23 t
NTE multistranded (3)
modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1[3] | 5'-ester |

SEQ 1 aaagttcttc ttctttcgtc ct

SEQ 1 aggacgaaag aagaagaact tt

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:278418

L66 ANSWER 13 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **196824-81-4** REGISTRY
CN **DNA, d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-C-T-T-T-C-G-T-C-C-T), complex with DNA d(A-G-G-A-C-G-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) and DNA d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[1-O-[(1S,3S)-3-acetyl-1,2,3,4,6,11-hexahydro-3,5,12-trihydroxy-10-methoxy-6,11-dioxo-1-naphthacenyl]-2,3,6-trideoxy-α-L-lyxo-hexopyranos-3-yl]amino]-6-oxohexyl] hydrogen phosphorothioate] (1:1:1) (9CI)** (CA INDEX NAME)

FS NUCLEIC ACID SEQUENCE
SQL 56,22,22,12
NA 14 a 11 c 8 g 23 t
NTE multistranded (3)
modified

| type | location | description |
|---|---|---|
| modified base | t-1[3] | 5'-ester |

SEQ 1 aaagttcttc ttctttcgtc ct

SEQ 1 aggacgaaag aagaagaact tt

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:278418

L66 ANSWER 14 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **193229-04-8** REGISTRY
CN **DNA, d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T), complex with deoxyribonucleic acid d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) and deoxyribonucleic acid d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(8S,10S)-[8-acetyl-10-(3-amino-2,3,6-trihydroxy-α-L-lyxo-hexopyranosyl)-5,7,8,9,10,12-hexahydro-6,8,11-trihydroxy-5,12-dioxo-1-naphthacenyl]]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **DNA, d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T), complex with deoxyribonucleic acid d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T) and deoxyribonucleic acid d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(8S,10S)-[8-acetyl-10-(3-amino-2,3,6-trihydroxy-α-L-lyxo-hexopyranosyl)-5,7,8,9,10,12-hexahydro-6,8,11-trihydroxy-5,12-dioxo-1-naphthacenyl]]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)**
CN **DNA, d(T-T-T-C-T-T-C-T-T-C-T-T), 5'-[S-[6-[[(8S,10S)-[8-acetyl-10-(3-amino-2,3,6-trihydroxy-α-L-lyxo-hexopyranosyl)-5,7,8,9,10,12-hexahydro-6,8,11-trihydroxy-5,12-dioxo-1-naphthacenyl]]oxy]hexyl] hydrogen phosphorothioate], complex with deoxyribonucleic acid d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T) and deoxyribonucleic acid d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) (1:1:1) (9CI)**
FS NUCLEIC ACID SEQUENCE
SQL 56,22,22,12
NA 14 a 11 c 8 g 23 t
NTE multistranded (3)
modified

| type | location | description |
|---|---|---|
| modified base | t-1[3] | 5'-ester |

---

SEQ 1 aaagttcttc ttctttgctc ct

SEQ 1 aggagcaaag aagaagaact tt

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:149343

L66 ANSWER 15 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **193229-03-7** REGISTRY
CN **DNA, d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T), complex with deoxyribonucleic acid d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) and deoxyribonucleic acid d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(8S,10S)-(8-acetyl-5,7,8,9,10,12-hexahydro-6,8,10,11-tetrahydroxy-5,12-dioxo-1-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **DNA, d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T), complex with deoxyribonucleic acid d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T) and deoxyribonucleic acid d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(8S,10S)-(8-acetyl-5,7,8,9,10,12-hexahydro-6,8,10,11-tetrahydroxy-5,12-dioxo-1-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)**
CN **DNA, d(T-T-T-C-T-T-C-T-T-C-T-T), 5'-[S-[6-[[(8S,10S)-(8-acetyl-5,7,8,9,10,12-hexahydro-6,8,10,11-tetrahydroxy-5,12-dioxo-1-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate], complex with deoxyribonucleic acid d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T) and deoxyribonucleic acid d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) (1:1:1) (9CI)**
FS NUCLEIC ACID SEQUENCE
SQL 56,22,22,12
NA 14 a 11 c 8 g 23 t
NTE multistranded (3)
modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1[3] | 5'-ester |

SEQ 1 aaagttcttc ttctttgctc ct

SEQ 1 aggagcaaag aagaagaact tt

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN

SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:149343

L66 ANSWER 16 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **193229-02-6** REGISTRY
CN **DNA, d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T), complex with deoxyribonucleic acid d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) and deoxyribonucleic acid d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(2S,4S)-(2-acetyl-1,2,3,4,6,11-hexahydro-2,4,7,12-tetrahydroxy-6,11-dioxo-5-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **DNA, d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T), complex with deoxyribonucleic acid d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T) and deoxyribonucleic acid d(T-T-T-C-T-T-C-T-T-C-T-T) 5'-[S-[6-[[(2S,4S)-(2-acetyl-1,2,3,4,6,11-hexahydro-2,4,7,12-tetrahydroxy-6,11-dioxo-5-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate] (1:1:1) (9CI)**
CN **DNA, d(T-T-T-C-T-T-C-T-T-C-T-T), 5'-[S-[6-[[(2S,4S)-(2-acetyl-1,2,3,4,6,11-hexahydro-2,4,7,12-tetrahydroxy-6,11-dioxo-5-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate], complex with deoxyribonucleic acid d(A-A-A-G-T-T-C-T-T-C-T-T-C-T-T-T-G-C-T-C-C-T) and deoxyribonucleic acid d(A-G-G-A-G-C-A-A-A-G-A-A-G-A-A-G-A-A-C-T-T-T) (1:1:1) (9CI)**
FS NUCLEIC ACID SEQUENCE
SQL 56,22,22,12
NA 14 a 11 c 8 g 23 t
NTE multistranded (3)
modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1[3] | 5'-ester |

SEQ 1 aaagttcttc ttctttgctc ct

SEQ 1 aggagcaaag aagaagaact tt

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation); PRP (Properties)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:149343

L66 ANSWER 17 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **193229-00-4** REGISTRY

CN **DNA, d(T-T-T-C-T-T-C-T-T-C-T-T), 5'-[S-[6-[[(8S,10S)-[8-acetyl-10-(3-amino-2,3,6-trihydroxy-α-L-lyxo-hexopyranosyl)-5,7,8,9,10,12-hexahydro-6,8,11-trihydroxy-5,12-dioxo-1-naphthacenyl]]oxy]hexyl] hydrogen phosphorothioate] (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 12
NA 3 c 9 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1 | 5'-ester |

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:278418

REFERENCE 2: 127:149343

L66 ANSWER 18 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **193228-99-8** REGISTRY
CN **DNA, d(T-T-T-C-T-T-C-T-T-C-T-T), 5'-[S-[6-[[(2S,4S)-(2-acetyl-1,2,3,4,6,11-hexahydro-2,4,7,12-tetrahydroxy-6,11-dioxo-5-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate] (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 12
NA 3 c 9 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1 | 5'-ester |

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
DR 196824-80-3
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:278418

REFERENCE 2: 127:149343

L66 ANSWER 19 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **193228-98-7** REGISTRY
CN **DNA, d(T-T-T-C-T-T-C-T-T-C-T-T), 5'-[S-[6-[[(8S,10S)-(8-acetyl-5,7,8,9,10,12-hexahydro-6,8,10,11-tetrahydroxy-5,12-dioxo-1-naphthacenyl)]oxy]hexyl] hydrogen phosphorothioate] (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 12
NA 3 c 9 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1 | 5'-ester |

SEQ 1 tttcttcttc tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER, USPATFULL
DT.CA CAplus document type: Journal; Patent
RL.P Roles from patents: PREP (Preparation)
RL.NP Roles from non-patents: PREP (Preparation); RACT (Reactant or reagent)
2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 127:278418

REFERENCE 2: 127:149343

L66 ANSWER 20 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **175387-32-3** REGISTRY
CN **RNA, (A-G-G-A-G-G-A-G-G-A-G-G-G-A-G-A-G-C-G-C-A-A-A-U-G-A-G-A-U-U), 5'-[6-[[4-[[6-[2-[[4-[3-[[2-[[(acetylthio)acetyl]amino]ethyl]amino]-2-[(methylsulfonyl)amino]-3-oxopropyl]phenoxy]acetyl]hydrazino]-6-oxohexyl]amino]-1,4-dioxo-2-butenyl]thio]hexyl hydrogen phosphate] (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Ribonucleic acid, (A-G-G-A-G-G-A-G-G-A-G-G-G-A-G-A-G-C-G-C-A-A-A-U-G-A-G-A-U-U), 5'-[6-[[4-[[6-[2-[[4-[3-[[2-[[(acetylthio)acetyl]amino]ethyl]amino]-2-[(methylsulfonyl)amino]-3-oxopropyl]phenoxy]acetyl]hydrazino]-6-oxohexyl]amino]-1,4-dioxo-2-butenyl]thio]hexyl hydrogen phosphate]**
FS NUCLEIC ACID SEQUENCE
SQL 30
NA 11 a 2 c 14 g 3 u
NTE modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | a-1 | 5'-ester |

SEQ 1 aggaggagga gggagagcgc aaaugagauu

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)
RLD.P Roles for non-specific derivatives from patents: BIOL (Biological study); PREP (Preparation); USES (Uses)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 124:254781

L66 ANSWER 21 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **157818-12-7** REGISTRY
CN **RNA, (C-A-C-A-C-C-G-A-C-G-G), 5'-[2-[1-(4-amino-2-oxo-1(2H)-pyrimidinyl)-2-oxoethoxy]-3-[[6-[[[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]thioxomethyl]hydrazino]-1,6-dioxohexyl]hydrazono]propyl hydrogen phosphate] (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Ribonucleic acid, (C-A-C-A-C-C-G-A-C-G-G), 5'-[2-[1-(4-amino-2-oxo-1(2H)-pyrimidinyl)-2-oxoethoxy]-3-[[6-[[[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]thioxomethyl]hydrazino]-1,6-dioxohexyl]hydrazono]propyl hydrogen phosphate]**
FS NUCLEIC ACID SEQUENCE
SQL 11
NA 3 a 5 c 3 g
NTE modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | g-11 | 3'-ester |

SEQ 1 cacaccgacg g

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS, TOXCENTER
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 121:173214

L66 ANSWER 22 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **154804-75-8** REGISTRY
CN **DNA, d(A-C-C-C-C-A-G-C-T-C-A-G-C-T-C), 5'-[6-[[4-[[(3β,5β,12β,14β)-21,23-epoxy-12,14-dihydroxy-23-oxo-24-norchol-20(22)-en-3-yl]oxy]-1,4-dioxobutyl]thio]hexyl hydrogen phosphate] (9CI)** (CA INDEX NAME)

OTHER CA INDEX NAMES:
CN 24-Norcholane, deoxyribonucleic acid deriv.
CN **Deoxyribonucleic acid, d(A-C-C-C-C-A-G-C-T-C-A-G-C-T-C), 5'-[6-[[4-[[(3β,5β,12β,14β)-21,23-epoxy-12,14-dihydroxy-23-oxo-24-norchol-20(22)-en-3-yl]oxy]-1,4-dioxobutyl]thio]hexyl hydrogen phosphate]**
FS NUCLEIC ACID SEQUENCE
SQL 15
NA 3 a 8 c 2 g 2 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | a-1 | 5'-ester |

SEQ 1 accccagctc agctc

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:271031

L66 ANSWER 23 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **154804-74-7** REGISTRY
CN **DNA, d(A-A-C-G-T-T-G-A-G-G-G-G-C-A-T), 5'-[6-[[4-[[(3β,5β,12β,14β)-21,23-epoxy-12,14-dihydroxy-23-oxo-24-norchol-20(22)-en-3-yl]oxy]-1,4-dioxobutyl]thio]hexyl hydrogen phosphate] (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN 24-Norcholane, deoxyribonucleic acid deriv.
CN **Deoxyribonucleic acid, d(A-A-C-G-T-T-G-A-G-G-G-G-C-A-T), 5'-[6-[[4-[[(3β,5β,12β,14β)-21,23-epoxy-12,14-dihydroxy-23-oxo-24-norchol-20(22)-en-3-yl]oxy]-1,4-dioxobutyl]thio]hexyl hydrogen phosphate]**
FS NUCLEIC ACID SEQUENCE
SQL 15
NA 4 a 2 c 6 g 3 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | a-1 | 5'-ester |

SEQ 1 aacgttgagg ggcat

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF Unspecified
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal

RL.NP Roles from non-patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 120:271031

L66 ANSWER 24 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **141706-81-2** REGISTRY
CN **DNA, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[[4-[7-(diethylamino)-4-methyl-2-oxo-2H-1-benzopyran-3-yl]phenyl]amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate], complex with DNA d(T-A-A-T-G-A-G-T-G-A-G-C-T-A-A-C-T-C-A-C-A-T-T-A-A-T) (1:1) (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[[4-[7-(diethylamino)-4-methyl-2-oxo-2H-1-benzopyran-3-yl]phenyl]amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate], complex with deoxyribonucleic acid d(T-A-A-T-G-A-G-T-G-A-G-C-T-A-A-C-T-C-A-C-A-T-T-A-A-T) (1:1)**
CN **DNA, d(T-A-A-T-G-A-G-T-G-A-G-C-T-A-A-C-T-C-A-C-A-T-T-A-A-T), complex with DNA d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A) 5'-[hydrogen [2-[[4-[[4-[7-(diethylamino)-4-methyl-2-oxo-2H-1-benzopyran-3-yl]phenyl]amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate] (1:1) (9CI)**
FS NUCLEIC ACID SEQUENCE
SQL 52,26,26
NA 18 a 8 c 8 g 18 t
NTE multistranded (2)
modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | t-1[2] | 5'-phosphoramidate |

SEQ 1 attaatgtga gttagctcac tcatta

SEQ 1 taatgagtga gctaactcac attaat

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C282 H351 N95 O162 P26 S . C256 H321 N98 O152 P25
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties)

CM 1

CRN 141639-23-8
CMF C256 H321 N98 O152 P25
CCI MAN

CM 2

CRN 141634-63-1
CMF C282 H351 N95 O162 P26 S
CCI MAN
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 117:2110

L66 ANSWER 25 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **141706-80-1** REGISTRY
CN **DNA, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate], complex with DNA d(T-A-A-T-G-A-G-T-G-A-G-C-T-A-A-C-T-C-A-C-A-T-T-A-A-T) (1:1) (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate], complex with deoxyribonucleic acid d(T-A-A-T-G-A-G-T-G-A-G-C-T-A-A-C-T-C-A-C-A-T-T-A-A-T) (1:1)**
CN **DNA, d(T-A-A-T-G-A-G-T-G-A-G-C-T-A-A-C-T-C-A-C-A-T-T-A-A-T), complex with DNA d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A) 5'-[hydrogen [2-[[4-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate] (1:1) (9CI)**
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthene], deoxyribonucleic acid deriv.
FS NUCLEIC ACID SEQUENCE
SQL 52,26,26
NA 18 a 8 c 8 g 18 t
NTE multistranded (2)
modified

| type | ------ location ------ | description |
|---|---|---|
| modified base | a-1 | 5'-phosphoramidate |

SEQ 1 attaatgtga gttagctcac tcatta

SEQ 1 taatgagtga gctaactcac attaat

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C282 H342 N94 O165 P26 S . C256 H321 N98 O152 P25
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties)

CM 1

CRN 141639-23-8
CMF C256 H321 N98 O152 P25
CCI MAN

CM 2

CRN 141634-62-0
CMF C282 H342 N94 O165 P26 S
CCI MAN
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 117:2110

L66 ANSWER 26 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN

RN **141634-63-1** REGISTRY
CN **DNA, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[[4-[7-(diethylamino)-4-methyl-2-oxo-2H-1-benzopyran-3-yl]phenyl]amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate] (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[[4-[7-(diethylamino)-4-methyl-2-oxo-2H-1-benzopyran-3-yl]phenyl]amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate]**
FS NUCLEIC ACID SEQUENCE
SQL 26
NA 8 a 4 c 4 g 10 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | a-1 | 5'-phosphoramidate |

SEQ 1 attaatgtga gttagctcac tcatta

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C282 H351 N95 O162 P26 S
CI COM, MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 117:2110

L66 ANSWER 27 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **141634-62-0** REGISTRY
CN **DNA, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate] (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid, d(A-T-T-A-A-T-G-T-G-A-G-T-T-A-G-C-T-C-A-C-T-C-A-T-T-A), 5'-[hydrogen [2-[[4-[(3',6'-dihydroxy-3-oxospiro[isobenzofuran-1(3H),9'-[9H]xanthen]-5-yl)amino]-1,4-dioxo-2-butenyl]thio]ethyl]phosphoramidate]**
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthene], deoxyribonucleic acid deriv.
FS NUCLEIC ACID SEQUENCE
SQL 26
NA 8 a 4 c 4 g 10 t
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | a-1 | 5'-phosphoramidate |

SEQ 1 attaatgtga gttagctcac tcatta

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C282 H342 N94 O165 P26 S

CI COM, MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PRP (Properties)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 117:2110

L66 ANSWER 28 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **140698-22-2** REGISTRY
CN **Cytidine, 2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxyguanylyl-(3'→5')-2'-deoxy-, 3'-[S-[6-[[1-O-(3-acetyl-1,2,3,4,6,11-hexahydro-3,5,12-trihydroxy-10-methoxy-6,11-dioxo-1-naphthacenyl)-2,3,6-trideoxy-α-L-lyxo-hexopyranos-3-yl]amino]-6-oxohexyl] hydrogen phosphorothioate], (1S-cis)-(9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 12
NA 3 a 6 c 3 g
NTE

| type | ------ location ------ | description |
|---|---|---|
| modified base | c-12 | 3'-ester |

SEQ 1 cacaccgacg gc

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C147 H183 N49 O80 P12 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 116:194779

L66 ANSWER 29 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **140698-20-0** REGISTRY
CN **Thymidine, thymidylyl-(3'→5')-thymidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-thymidylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')-, 3'-[S-[6-[[1-O-(3-acetyl-1,2,3,4,6,11-hexahydro-3,5,12-trihydroxy-10-methoxy-6,11-dioxo-1-naphthacenyl)-2,3,6-trideoxy-α-L-lyxo-hexopyranos-3-yl]amino]-6-oxohexyl] hydrogen phosphorothioate], (1S-cis)- (9CI)** (CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 11
NA 5 c 6 t
NTE

| type | location | description |
|---|---|---|
| modified base | t-11 | 3'-ester |

SEQ 1 tttcctcctc t

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C138 H177 N28 O83 P11 S
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 116:194779

L66 ANSWER 30 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **124540-09-6** REGISTRY
CN **DNA, d(P-thio)(T-C-G-T-C-G-C-T-G-T-C-T-C-C-G-C-T-T-C-T-T-C-C-T-G-C-C-A), 5'-[[2-[4-(9,10-dihydro-9,10-dioxo-1-anthracenyl)-1-piperazinyl]ethyl] methyl phosphate] (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid, d(P-thio)(T-C-G-T-C-G-C-T-G-T-C-T-C-C-G-C-T-T-C-T-C-C-T-G-C-C-A), 5'-[[2-[4-(9,10-dihydro-9,10-dioxo-1-anthracenyl)-1-piperazinyl]ethyl] methyl phosphate]**
FS NUCLEIC ACID SEQUENCE
SQL 28
NA 1 a 12 c 5 g 10 t
NTE

| type | location | description |
|---|---|---|
| modified base | t-1 | 5'-ester |
| modified link | t-1 - c-2 | P-thio |
| modified link | c-2 - g-3 | P-thio |
| modified link | g-3 - t-4 | P-thio |
| modified link | t-4 - c-5 | P-thio |
| modified link | c-5 - g-6 | P-thio |
| modified link | g-6 - c-7 | P-thio |
| modified link | c-7 - t-8 | P-thio |
| modified link | t-8 - g-9 | P-thio |
| modified link | g-9 - t-10 | P-thio |
| modified link | t-10 - c-11 | P-thio |
| modified link | c-11 - t-12 | P-thio |
| modified link | t-12 - c-13 | P-thio |
| modified link | c-13 - c-14 | P-thio |
| modified link | c-14 - g-15 | P-thio |
| modified link | g-15 - c-16 | P-thio |
| modified link | c-16 - t-17 | P-thio |
| modified link | t-17 - t-18 | P-thio |
| modified link | t-18 - c-19 | P-thio |
| modified link | c-19 - t-20 | P-thio |
| modified link | t-20 - t-21 | P-thio |
| modified link | t-21 - c-22 | P-thio |
| modified link | c-22 - c-23 | P-thio |
| modified link | c-23 - t-24 | P-thio |

| | | | |
|---|---|---|---|
| modified link | t-24 | - g-25 | P-thio |
| modified link | g-25 | - c-26 | P-thio |
| modified link | c-26 | - c-27 | P-thio |
| modified link | c-27 | - a-28 | P-thio |

SEQ 1 tcgtcgctgt ctccgcttct tcctgcca

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C289 H368 N88 O153 P28 S27
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 112:77868

L66 ANSWER 31 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **122635-46-5** REGISTRY
CN **DNA, d(P-thio)(T-C-G-T-C-G-C-T-G-T-C-T-C-C-G-C-T-T-C-T-T-C-C-T-G-C-C-A), 5'-[O-(9,10-dihydro-9,10-dioxo-1-anthracenyl) hydrogen phosphorothioate] (9CI)** (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Deoxyribonucleic acid, d(P-thio)(T-C-G-T-C-G-C-T-G-T-C-T-C-C-G-C-T-T-C-T-T-C-C-T-G-C-C-A), 5'-[O-(9,10-dihydro-9,10-dioxo-1-anthracenyl) hydrogen phosphorothioate]**
OTHER NAMES:
CN **Deoxyribonucleic acid, d(T-sp-C-sp-G-sp-T-sp-C-sp-G-sp-C-sp-T-sp-G-sp-T-sp-C-sp-T-sp-C-sp-C-sp-G-sp-C-sp-T-sp-T-sp-C-sp-T-sp-T-sp-C-sp-C-sp-T-sp-G-sp-C-sp-C-sp-A), 5'-[O-(9,10-dihydro-9,10-dioxo-1-anthracenyl) hydrogen phosphorothioate]**
FS NUCLEIC ACID SEQUENCE
SQL 28
NA 1 a 12 c 5 g 10 t
NTE

| type | location | | description |
|---|---|---|---|
| modified base | t-1 | | 5'-ester |
| modified link | t-1 | - c-2 | P-thio |
| modified link | c-2 | - g-3 | P-thio |
| modified link | g-3 | - t-4 | P-thio |
| modified link | t-4 | - c-5 | P-thio |
| modified link | c-5 | - g-6 | P-thio |
| modified link | g-6 | - c-7 | P-thio |
| modified link | c-7 | - t-8 | P-thio |
| modified link | t-8 | - g-9 | P-thio |
| modified link | g-9 | - t-10 | P-thio |
| modified link | t-10 | - c-11 | P-thio |
| modified link | c-11 | - t-12 | P-thio |
| modified link | t-12 | - c-13 | P-thio |
| modified link | c-13 | - c-14 | P-thio |
| modified link | c-14 | - g-15 | P-thio |
| modified link | g-15 | - c-16 | P-thio |
| modified link | c-16 | - t-17 | P-thio |
| modified link | t-17 | - t-18 | P-thio |
| modified link | t-18 | - c-19 | P-thio |

| | | | |
|---|---|---|---|
| modified link | c-19 | - t-20 | P-thio |
| modified link | t-20 | - t-21 | P-thio |
| modified link | t-21 | - c-22 | P-thio |
| modified link | c-22 | - c-23 | P-thio |
| modified link | c-23 | - t-24 | P-thio |
| modified link | t-24 | - g-25 | P-thio |
| modified link | g-25 | - c-26 | P-thio |
| modified link | c-26 | - c-27 | P-thio |
| modified link | c-27 | - a-28 | P-thio |

SEQ 1 tcgtcgctgt ctccgcttct tcctgcca

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C282 H354 N86 O152 P28 S28
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 111:126495

L66 ANSWER 32 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **122635-20-5** REGISTRY
CN **Thymidine, 5'-O-[[[6-[(9,10-dihydro-9,10-dioxo-1-anthracenyl)amino]hexyl]oxy]mercaptophosphinyl]thymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')- (9CI)**
(CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 12
NA 12 t
NTE

| type | location | | description |
|---|---|---|---|
| modified base | t-1 | | 5'-ester |
| modified link | t-1 | - t-2 | P-thio |
| modified link | t-2 | - t-3 | P-thio |
| modified link | t-3 | - t-4 | P-thio |
| modified link | t-4 | - t-5 | P-thio |
| modified link | t-5 | - t-6 | P-thio |
| modified link | t-6 | - t-7 | P-thio |
| modified link | t-7 | - t-8 | P-thio |
| modified link | t-8 | - t-9 | P-thio |
| modified link | t-9 | - t-10 | P-thio |
| modified link | t-10 | - t-11 | P-thio |
| modified link | t-11 | - t-12 | P-thio |

SEQ 1 ttttttttt tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C140 H177 N25 O75 P12 S12

CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 111:126495

L66 ANSWER 33 OF 33 REGISTRY COPYRIGHT 2006 ACS on STN
RN **122635-18-1** REGISTRY
CN **Thymidine, 5'-O-[[2-[4-(9,10-dihydro-9,10-dioxo-1-anthracenyl)-1-piperazinyl]ethoxy]mercaptophosphinyl]thymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')-P-thiothymidylyl-(3'→5')- (9CI)**
(CA INDEX NAME)
FS NUCLEIC ACID SEQUENCE
SQL 12
NA 12 t
NTE

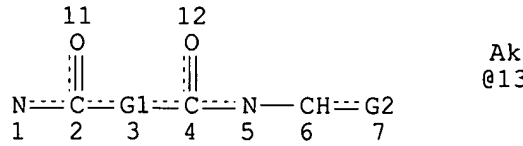
| type | ------ location ------ | | description |
|---|---|---|---|
| modified base | t-1 | | 5'-ester |
| modified link | t-1 | - t-2 | P-thio |
| modified link | t-2 | - t-3 | P-thio |
| modified link | t-3 | - t-4 | P-thio |
| modified link | t-4 | - t-5 | P-thio |
| modified link | t-5 | - t-6 | P-thio |
| modified link | t-6 | - t-7 | P-thio |
| modified link | t-7 | - t-8 | P-thio |
| modified link | t-8 | - t-9 | P-thio |
| modified link | t-9 | - t-10 | P-thio |
| modified link | t-10 | - t-11 | P-thio |
| modified link | t-11 | - t-12 | P-thio |

SEQ 1 ttttttttt tt

**RELATED SEQUENCES AVAILABLE WITH SEQLINK**
MF C140 H176 N26 O75 P12 S12
CI MAN
SR CA
LC STN Files: CA, CAPLUS
DT.CA CAplus document type: Journal
RL.NP Roles from non-patents: PREP (Preparation)
1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 111:126495

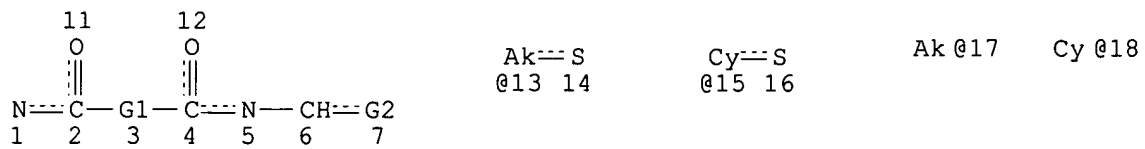
=> => d sta que l34
L26 STR




```
VAR G1=AK/CY
VAR G2=13/15
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  13

STEREO ATTRIBUTES: NONE
L28        35593 SEA FILE=REGISTRY SSS FUL L26
L32              STR
```




```
VAR G1=17/18
VAR G2=13/15
NODE ATTRIBUTES:
CONNECT IS E1  RC AT  14
CONNECT IS E1  RC AT  16
CONNECT IS E2  RC AT  17
CONNECT IS E2  RC AT  18
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  15

STEREO ATTRIBUTES: NONE
L34         199 SEA FILE=REGISTRY SUB=L28 SSS FUL L32

100.0% PROCESSED   35593 ITERATIONS                    199 ANSWERS
SEARCH TIME: 00.00.04


=>
```